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An Interdisciplinary Quarterly

Barbara Finkelstein
Alan H. Jones
Paul A. Wagner
Frederick S. Ellett, Jr.
Donald Arnstine
Gail Paulus Sorenson
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The *Journal of Thought* is a quarterly publication devoted to encouraging scholars of diverse disciplines, nationalities, languages and cultures to examine the significant educational issues and problems from the perspective of their various disciplines. The Editors solicit material that treats the more comprehensive issues and problems confronting education throughout the world. Interdisciplinary dialogue among scholars is encouraged.

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The American Educational Studies Association: Guardian of the Humanities in Education

The American Educational Studies Association began its work in 1968. Devoted to the exploration of education as it organizes consciousness, defines and/or reflects authority and power, empowers individuals and groups, and otherwise transmits culture from one generation to the next, AESA is a learned society acting as a guardian of the humanities in education.

Several assumptions inform all of the activities of AESA. First, there is a commitment to the notion that the study of education requires a disciplined imagination, an adventurous intellect, moral sensibility, and a preference for persuasion rather than coercion in human affairs. Second, there is an assumption that the study of education will be unnecessarily narrow if it excludes insights derived from literature, philosophy, history, art, anthropology, interpretive sociology, comparative study, focussing only on paradigms drawn from the social and natural sciences. Third, there is an assumption that scholars in the Foundations serve two purposes simultaneously. On the one hand, they enhance and illuminate our understanding of educational purposes, practices, arrangements and possibilities. On the other hand, they supply a critical presence providing narrative and interpretive perspectives to the practices and practicalities of contemporary education.

Comprising scholars who are committed simultaneously to the academic study of education and to the improvement of educational possibility, AESA seeks to demonstrate the utility of studying education as a guide to cultural, intellectual, political, economic, and social realities, as well as a guide to educational reform and transformation.

Like all learned societies, AESA provides settings within which debate, dialogue, argument, and new knowledge emerge. There is an annual meeting in early November, where scholars have an opportunity to share the fruits of their research, to conceptualize and debate educational issues, to renew their scholarly energies, to enhance the study of education and their own professional lives. The Butts Lectures, inaugurated in 1974, in honor of R. Freeman Butts, and prepared by distinguished scholars such as David Riesman, Anthony F. C. Wallace and Israel Scheffler, provide members with an annual infusion of creative thinking about important educational issues. An average of one hundred and fifty scholars participate each year in the annual program, and opportunities to engage in informal talk are systematically organized.

The Association, like other learned societies, also sponsors and supports a scholarly journal devoted to the advancement of knowledge and the continuing education and expression of scholars in the Social, Historical and Philosophical Foundations of Education. Seeking to familiarize readers with the best of current scholarship, and thoughtful exposition on the state of education research and practice, *Educational Studies* is the only Foundations journal featuring thoughtful and well-reasoned reviews of recent literature.

Convinced that Foundations scholars have an obligation to elevate the character of public discourse, AESA has recently begun to sponsor publications that will reach beyond Foundations scholars. Essays exploring policy alternatives, pamphlets illuminating relationships between the Humanities and Education, and position papers providing examples of scholarship that tie thought and action together, are all projected for publication within the next two years.

Convinced that the study of education ought to be attached to decisions about educational purpose and practice, AESA has provided a model of professional culture that differs in fundamental ways from that of other Foundations of Education learned societies. Explicitly organized to provide contacts between ". . . generalists and specialists in the academic study of education, and between education scholars and scholars in traditional disciplines. . . ."[1] the Organization has provided fundamental leadership in the attempt to infuse Humanities dimension into teacher education programs, accreditation processes on college and university campuses, as well as in public and professional dialogues.

AESA originated, defined and stewarded what have become "Standards for Academic and Professional Instruction in the Foundations of Education"—a document defining standards by which Foundations components of all professional education programs are judged and accredited. Six other learned societies (Comparative and International Education Society, History of Education Society, John Dewey Society, Philosophy of Education Soci-

ety, Society for Educational Reconstruction and the Society of Professors of Education), under the auspices of the Council of Learned Societies in Education, have also adapted the Standards. They are currently being edited and re-issued under the auspices of the Council.

AESA has also initiated efforts to encourage faculty in the Foundations to receive training and serve on NCATE accreditation teams, to exercise leadership in the various states on significant educational issues, and to forge liaisons with a wide variety of national, state, and local groups in the Humanities and Social Sciences.

Through the work of its Committee on Academic Standards and Accreditation, AESA supports and encourages the development of state and local chapters forging networks of collaboration among people with compelling interests in the fate of education.

Committed as well to the nurture of collaborative arrangements with other groups of professional educators, AESA has generated opportunities for Foundations scholars to participate in the activities of associations like the American Association of College Teachers of Education (AACTE), the Council of Learned Societies in Education (CLIE), and the National Council for the Accreditation of Teacher Education (NCATE).

Through the work of its more visible leaders—Maxine Green, R. Freeman Butts, Christopher Lucas, Donald R. Warren, Charles Tesconi, John Martin Rich, Paul Nash, John Best, Seymour Itzkoff, Marie Wirsing, Jim Shields—as well as through its scholarly and political activities, AESA seeks to realize its fundamental purpose: to provide interpretive, normative, and critical perspective to the study and practice of education.

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[1]Constitution of the American Educational Studies Association, Article I. 1968

Membership in AESA is available in several categories with appropriate annual dues:

Student Members	$5.00
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Margins of Precision

Introduction to the Margins of Precision

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The *Margins of Precision* provides the *Journal of Thought* with a novel element in its format. The *MP* section will prove a forum for recognized scholars to argue their views regarding a controversial issue within their range of expertise. The lead article in the *MP* will be a speculative essay written by a scholar detailing the current difficulties within a study or practice and will recommend procedures for addressing such difficulties in the future. The second article will be a response to the analysis and recommendations appearing in the lead article. It is expected that the response will be responsibly written and deliberately critical. This will insure that the controversial issues which are raised in the lead article will be meticulously examined by readers of the *Journal of Thought*.

The name for this section, "Margins of Precision" was selected to underscore the point that the section serves to elucidate theoretical problems whose resolution remains open to considerable debate. The "Margins of Precision" will address academic problems in a responsible and scholarly way by having two researchers examine the same bit of controversy. The writer of the lead article will shoulder the major responsibility for examining the issue in detail. The respondent will be responsible for drawing attention to the strength in the lead article or weaknesses that may have occurred as a result of omission, use of misleading expressions or faulty argument. In addition, the respondent may on occasion find it necessary to challenge the author of the lead article on major substantive issues. By publishing such an exchange we hope to insure that the readers of the *Journal of Thought* will have the opportunity to consider a meticulously argued exchange among noteworthy scholars on matters of considerable intellectual impact. Since the *Journal of Thought* is an interdisciplinary journal, the concerns reflected in *MP* will be selected from a variety of academic disciplines. However, in each case the articles published in *MP* should be written in a way that makes the topic accessible to the general reader as well as the specialist.

In coming issues of the *Journal of Thought* we will be publishing lead articles by such noteworthy scholars as Jacob Getzels, University of Chicago; Dennis Phillips, Stanford University; and Jonas Soltis, Teachers College, Columbia University. In this, the first edition of the Margins of Precision, Donald Arnstine, author of *Philosophy of Education: Learning and Schooling*, argues that the "Sacramento Monkey Trial" demonstrated not so much the scientific merit of evolutionary theory, but rather confirmed Arnstine's suspicion that the courtroom is no marketplace for truth. Academic credentials aside, scholarly testimony is simply one more tool to be employed by clever lawyers intent on "scoring points" and building a case.

In response to Arnstine's pessimistic reflections, professors Gail Paulus Sorenson and Louis Fischer observe that there is a long history of controversy in America in which ideology is set against scientific development. However, after reviewing a number of earlier court cases Fischer and Sorenson believe that the fact that such controversy continues in America is reason for optimism and not despair. People with strong ideological commitment have always opposed any suggestion that their position is weak or wrongheaded. However, unlike the courts in many other countries, American jurists have successfully protected the right of ideologists to argue against new scientific findings as well as the right of scientists to make public new scientific truths. Sorenson and Fischer conclude that it is because of the American court's ability to maintain such a precarious balance between dogma and novelty that so much intellectual vitality has been preserved in this country.

Sorenson and Fischer are both lawyers and each holds a Ph.D. as well. Sorenson is the author of a number of articles and Fischer is co-author of two books, *The Civil Rights of Teachers* and *The Civil Rights of Students*. Both Sorenson and Fischer are professors of education.

We hope you will find the *Margins of Precision* an interesting and worthwhile addition to the *Journal of Thought*.

Margins of Precision: Essay

The Academy in the Courtroom: The Sacramento Monkey Trial

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There is an old story that tells of a performer trying to convince an impressario to book his act. "On the stage," says the performer, "is a tub of oil, two feet deep. I climb a thirty-foot ladder and douse myself with gasoline. Then I ignite it and jump headfirst into the tub of oil." "Sounds pretty good," says the impressario, "but what do you do for an encore?"

Despite the tendency of human history to repeat itself, some acts are just hard to follow. Back in 1925, John Scopes was charged with violating Tennessee law because he taught evolution in his high school class. Clarence Darrow defended him against the Bible-thumping eloquence of William Jennings Bryan. Scopes lost and paid a fine of $100, but the publicity generated by the case helped establish a distinction, in the public mind, between science and religion, education and indoctrination.

Darrow, Bryan, and Scopes were not asked to do an encore. But a half century later a man named Kelly Segraves filed a complaint in Sacramento Superior Court. His charge: the teaching of evolutionary theory in California schools was an unconstitutional establishment of religion that violated children's rights to their own religious beliefs and teachers' academic freedom to present alternative views. For an encore, it was a little late. But the Sacramento *Bee* announced, " 'Monkey Trial' Set for Capitol Replay." The show opened on March 2, 1981, to television crews and a packed house; journalists came from as far away as London.

But there was to be no encore. The show closed after its first week. The final performance played to a lot of empty seats; the reporters found more entertainment in Sacramento's nearby saloons.

The public expected a major confrontation between the supporters of religious accounts of the origin of man and a veritable army of scientists and educators. In the courtroom of Sacramento, the Moral Majority was to meet Science and Humanism head-on. But the complaint evaporated at the very start of the proceedings, leaving everyone dressed up with no place to go.

What had been billed as an intellectual and legal confrontation over a major issue of the twentieth century was quickly transformed into just another media event.

But the confrontation was not permanently avoided; it was only delayed. Even as this is written, a complaint challenging the constitutionality of a recent Arkansas law has been scheduled for a late 1981 hearing in the U.S. District Court in Arkansas. That law requires that, if the origins of life are taught in biology classrooms, "balanced" instruction be offered in both "evolution science" and "creation science."

Because the issues of science, religion, and the U.S. Constitution seem destined to appear again, there may be something worthwhile to be learned from the California trial. As a consultant for the state of California, I helped prepare the state's defense, and I played a small role in court as one of the four witnesses for the state. Because I believe that the legal strategies adopted by the adversaries are as significant as their actual arguments, I will first set forth the creationists' complaint and then review the strategies for the defense.

The original complaint of the creationists was never pursued. Consequently, the major portion of the defense strategy had to be shelved. Still, this strategy is of interest in its own right, as well as for the light it sheds on the role played by scholars in the litigation. The strategy itself was firmly anchored in arguments that distinguish science from religion. These arguments have recently been summarized in an essay by Harvey Siegel ("Creationism, Evolution, and Education: The California Fiasco") in the October, 1981, *Phi Delta Kappan*. The force of these arguments was rendered virtually useless by a change in the creationists' complaint that resulted in the contesting of a very different issue. I will recount this turn of events, and indicate how the various participants interpreted it.

There are times when being right—and even being clever about it—doesn't make much difference. Academicians take great pains to be right, but they are not always practically effective. I will try to show, later on in this essay, how academicians—myself among them—were unprepared for a public dispute that would not be conducted according to the rules of academic debate. There is a lesson here, I believe, for scholars who have an interest in influencing public policy.

I. The Complaint

On January 19, 1979, a complaint was filed against the state of California, its Board of Education and its Department of Education, and a number of state officials. Among the key plaintiffs were Kelly Segraves, representing his own minor children, and the San Diego–based Creation Science Research Center. The focus of the complaint was the teaching of evolutionary theory.

To put it simply, plaintiffs thought that it was wrong to present evolutionary theory in science classes as if it were the sole acceptable account of the origins of life on earth. Plaintiff Segraves was not an amateur on these matters. Four years earlier he had co-authored a book (with Robert E. Kofahl) called the *The Creation Explanation: A Scientific Alternative to Evolution*. The book was published by the Creation Science Research Center, another one of the plaintiffs.

Plaintiffs asked the court for an injunction to keep the state from further distribution of its Science Framework (a curriculum guide), and from using the Framework in evaluating texts for possible adoption, in training teachers, and in formulating curricula. The state would also be directed to recall all existing Science Frameworks and write a new one that reflected a "neutral" approach to the teaching of the origins of life.

What did the creationists find wrong with current science teaching? To begin with, it is their belief that, in the language of the formal complaint, "there was a time in the past when all matter, energy and man and all plant and animal life, and their processes and relationships were created *ex nihilo* and fixed by creative and intelligent design." Creationists allege that this belief has scientific support. But the state, using tax support, has committed itself "to the 1978 Science Framework's biased espousal of the evolutionary theory of the origins of man . . . as the only credible theory of said origins and life."

The complaint consequently charges that evolutionary theory is "hostile to and contributes a repugnant coercion against the religious beliefs of plaintiffs." But state law permits no activities or instructional materials which "reflect adversely on persons because of their . . . creed . . ." Thus the state's adoption and distribution of the Science Framework was said to be in violation of state law.

But if the distribution of the Science Framework is considered to fall within state law, then the law itself is unconstitutional, for it would constitute "the establishment of the religion of Secular Humanism." Establishment of religion violates both the U.S. and the California Constitutions.

The above complaints can be summarized thus: the state's use of the Science Framework violates state law because it is hostile to students' religious beliefs, and it violates the state constitution because it establishes the religion of Secular Humanism. In its defense, the state confronted these complaints in the form of the following question: does state promulgation of evolutionary theory constitute an establishment of religion?

A second complaint asserts that the plaintiff's children will be indoctrinated with evolutionary theory. "Such indoctrination," the complaint alleges, "amounts to a coercion in violation of and against said minor plaintiffs' inalienable rights to their religious beliefs." Here, the defense confronted the question, does the promulgation of an evolutionary account

of the origins of life, to the exclusion of other accounts, constitute indoctrination?

Plaintiffs' final complaint asserted that any teacher who accepted creation theory will be "forced to abandon his present approach and method of teaching the origins of life . . ." Thus state promulgation of evolutionary theory was said to be a "patent violation" of teachers' academic freedom.

All of these complaints are closely interrelated, but for the purposes of constructing a defense that we hoped would be intelligible and persuasive, arguments were fashioned to meet three focal questions:

(1) Does state promulgation of evolutionary theory constitute an establishment of religion?

(2) Does state promulgation of evolutionary theory constitute indoctrination (in contrast to education)?

(3) Does state promulgation of evolutionary theory constitute a violation of the academic freedom of teachers?

II. Strategies of the Defense

In any educational controversy, it is important to consider the consequences a policy might have on what children learn. But public disputes about schooling are often conducted without much reference to teaching and learning. Instead, people often consider only matters like financial exigencies, legal constraints, community feeling, or comparative test scores. Thus it came as a pleasant surprise to me when Deputy Attorney General Robert F. Tyler explicitly sought consultation with people who studied the relation between schooling and learning, and schooling and society. In addition to consultants in education, Tyler also arranged for the appearance of nearly thirty expert witnesses, including several theologians and a platoon of distinguished research scientists.

The theologians, representing Catholic, Protestant, and Jewish faiths, were prepared to testify that questions about the origins of life were matters for scientific, not religious determination. The scientists were prepared to testify about the nature of science and scientific inquiry, and to contrast that with the way religious beliefs are established. All the witnesses—and Tyler, too—were confident of their positions, and confident that the complaint could be defeated. Tyler's task was to organize the testimony so as to connect conceptions of science, religion, and the origins of life with questions of teaching and learning, and with a defensible conception of the role of schools in a democratic society. Tyler and I first met to discuss strategies for these latter issues on February 12; court was scheduled to convene March 2.

Our aim was to put together an extended argument that would firmly establish negative answers to the three focal questions that had been identified in the complaint: does state promulgation of evolutionary theory constitute (1) an establishment of religion? (2) indoctrination? and (3) a viola-

tion of the academic freedom of teachers? We wanted to get clear enough on this argument so that it could be presented in court as an ordered series of questions and answers. As defense attorney, Tyler would ask a question and I would answer as an expert witness. My answer would lead Tyler to the next question in the series, and so we would continue until the argument was complete.

What follows is an abbreviated summary of this argument. We had to forego some philosophical niceties because our purpose was practical and our audience was not an academic one. Thus a number of interesting conceptual distinctions that emerged from our dialogue (for example, the relation between "teaching religion" and "teaching about religion" to what would be implied in the distinction between "teaching science" and "teaching about science") were simply abandoned.

This testimony was to be offered relatively late in the trial. Thus our answer to the first question, whether the state's promulgation of evolutionary theory in the Science Framework constituted an establishment of religion, would draw heavily on the prior testimony of scientists and theologians. The distinctions we counted on their making would contrast the absolute nature of religious truths, which are such that contrary evidence cannot count as being relevant, with the tentative and corrigible nature of truth in science (the article by Siegel noted earlier elaborates these points). We also expected scientists from various disciplines to show why, given the nature of science, evolutionary theory was scientific, hence not a religion. We would recapitulate these arguments in order to lead into the next (and closely related) issue, viz., whether promulgation of evolutionary theory constituted indoctrination.

Our approach to this second question was to show, first, the coercive nature of indoctrination (as an attempt to inculcate a belief independent of understanding, criticism, or the unbiased presentation of alternatives). We would then show that, while the conclusions discovered in the various sciences could indeed be indoctrinated, the mere presentation of such conclusions could not be counted as teaching science at all. For the concept of 'science' includes its methods of inquiry and warrants for truth as well as its particular conclusions. Thus an attempt to teach evolutionary theory without teaching how the theory was developed, how it has been verified, and how it can be challenged, would be a case of indoctrination. But it would not be science teaching.* Indoctrination thus assumes incorrigibility, for it denies the challenge and public testing that is the hallmark of science. Given

*It is no secret that many teachers do indoctrinate evolutionary theory, as well as other results of scientific inquiry. Such teaching cannot be defended as education. But we were not defending all efforts to teach science, but only the state's Science Framework, which does not mandate doctrinaire instruction.

the nature of science, it would be conceptually contradictory to suppose that it could be indoctrinated.

Before confronting the third question (about the alleged violation of teachers' academic freedom), we attempted to use the discussion of indoctrination to introduce what we hoped would be a defensible conception of the obligation of schools serving a democratic society. This conception would exhibit important connections between the concepts of education, science, public participation, and academic freedom.

Schools, we would claim, are expected to prepare students to participate in a society in which decisions of public consequence are publicly made, and made with the maximum feasible participation of the public. Schools have other obligations too, but this one is particularly important in a society that cherishes democratic ideals. It would certainly not be expected of schools in an authoritarian society.

What does this obligation imply for instruction in schools? Surely it implies that information presented to students be true, in the sense that it has been accepted by investigators within relevant disciplines. And it implies that this information be presented in non-coercive ways. Its presentation must permit questioning, challenge, the examination of alternatives, and the participation of students.

If schools in a democratic society have such an obligation, then it is clear that society must strive to maintain academic freedom in its schools. It is thus germane to raise the question, does the state's promulgation of evolutionary theory violate the academic freedom of teachers?

Our response to this question would begin by focussing on three minimal features of the concept of academic freedom. First, it implies that no arbitrary limits be placed on what is taught or what is studied. Second, it implies that educational activities not be conducted coercively. And third, it implies that its benefits be extended to the entire academic community, and not just a part of it. For when freedom is extended only to a part of a community, the entire community is eventually threatened by the abrasive interactions of its free and unfree parts. Thus academic freedom must be maintained for those who learn as well as for those who teach.

It would then be relatively easy to show that the teaching of evolutionary theory as the *sole* explanation of the origins of life would not be in violation of students' academic freedom. Since the theory is a scientific explanation, it has been publicly subject to and has passed a wide variety of tests. Thus the exposition of evolutionary theory is able (and is obligated) to meet whatever challenges or alternatives may be offered by students.

But the tougher question is whether academic freedom would permit a teacher to teach *both* evolutionary theory *and* the creationist account of origins (obviously, it could not *demand* that both accounts be taught, any more than it could demand that the creation story of the Hopi Indians be

taught, or the accounts of any other religious or cultural groups). Common sense suggests that the teaching of both (or perhaps several) accounts of origins be permitted, as long as the teacher observes scientific rules of evidence, avoids coercion, and meets the objections of students. But our aim was to show that this common sense response raises two difficulties that inevitably invalidate it.

First, the account offered by creationists is not the only alternative account of origins that is available. There are many such accounts that are not regarded by scientists as being scientifically verified (or verifiable), and to allow the teaching of one is to invite the teaching of the others. If so extensive an enterprise is undertaken in a science class, it is not easy to imagine how students would find time to learn the intricacies of evolutionary theory. Indeed, one envisions a science class as a sort of circus in which a parade of conceptual freaks is exhibited, each claiming the title of "science" and the mantle of "truth" (this language, I confess, is intended for the reader only, and not for use in court). This difficulty raises a second one which must be regarded as far more serious.

When students enter a class labelled "science," they quite naturally expect that what is presented will *be* science. If evolutionary theory is taught, students will assume that it is a part of science. And if creationism is taught, students will assume that it, too, is a part of science. But in fact, creationism (or "scientific creationism") is not a part of science, is not subject to scientific tests, and is accepted by virtually no research scientists. Thus the very presentation of creationism as an alternative theory of origins in a *science* class (but not necessarily in a social studies class) is seriously to mislead students—not only about the nature of the origins of life, but about the nature of science itself. We would thus argue that such a practice would constitute a substantial violation of the academic freedom of students.

We would conclude by insisting that no conception of academic freedom for teachers can be supported if it leads to the abridgement of students' academic freedom. Thus the state's promulgation of evolutionary theory in the Science Framework, to the exclusion of other accounts of origins, does not constitute a violation of teachers' academic freedom.

III. The Court Convenes

Compared to the mass of evidence that Deputy Attorney General Tyler's platoon of scientific experts was prepared to offer, the evidence from the field of education might seem rather soft. Considered on their own merits, however, the educational arguments seemed substantial enough.

Plaintiffs appeared as confident as Tyler was. Nell Segraves, Kelly's mother, had challenged the teaching of evolution in public schools nineteen years before. She expressed her views to the Sacramento *Bee* (March 2):

> Neither evolution nor creationism is purely scientific. They are both philosophically founded, and both are part science and part religion. Once you start getting into origins, you are out of the realm of science. At that point it becomes philosophical, interpretational, a belief system. We are saying the state board cannot set policy that mandates a belief system.

Of course, plaintiff's concern extended far beyond the immediate case at hand. "If we came from some non-moral ape," asked Segraves' associate Robert E. Kofahl, "how can we say that there is any moral law for us? . . . We contend that the teaching of evolution is one of the principal causes of the decay to America and to a free society."

Court opened on Monday, March 2. The trial was to be heard by Sacramento Superior Court Judge Irving H. Perluss. Richard Turner, plaintiff's attorney, offered his opening argument and then did something that gave a dramatic turn to the case. In the judge's chambers, he withdrew that part of the complaint which charged that the state's promulgation of evolutionary theory constituted an establishment of religion. Tyler asked for a dismissal of the case, explaining later to *Bee* reporters (March 3) that the complaint was a "frivolous" attempt to get the teaching of evolution out of the classroom and replace it with religious dogma. "It's the same old corn," he said. "It's just been put into a new can." Judge Perluss denied Tyler's motion on the grounds that questions needed to be resolved about possible violations of the constitutional rights of schoolchildren.

On Tuesday, Kelly Segraves took the stand. Under Tyler's cross-examination it appeared that the complaint was going to be reduced even further. Since it was no longer being charged that the state was engaging in the establishment of religion, it was becoming awkward to charge that the state was indoctrinating students and violating the academic freedom of teachers. Plaintiff therefore withdrew these latter features of the original complaint. Attorney Turner now would argue only that the language in the state's Science Framework offended his clients' religious beliefs. What had once been a broad attack calling into question issues of science, religion, and the constitution had finally come to focus on a single sentence in the Framework, which said:

> The process [of evolution] has been going on so long that it has produced all the groups and kinds of plants and animals now living as well as others that have become extinct. (p. 84)

The next day, the *Bee* reported Judge Perluss' reaction: "I'm concerned that what I visualized as a great constitutional case has evolved itself into—excuse me, come down to—a question of semantics." The case, he said, now has nothing to do with establishing the scientific or educational

validity of evolutionism or creationism. "It seems to me," he said, "like a long road to a little house."

But Nell Segraves told reporters, "That little house the judge talks about is a big institution. We've been trying for three years to get the language of the guidelines changed. This could be a big step."

While Turner called the offending sentence "the watershed" of the case, Tyler said that plaintiffs had "defined themselves out of a case. Do we have to qualify everything we write?" he asked. "Don't tell me a book publisher is not going to be able to understand what we are talking about. The kids don't even read the Framework." But Judge Perluss didn't agree. He said he would have to consider whether the language in the Science Framework was offensive to Segraves' sincerely held beliefs. It it was, it might be a violation of Segraves' constitutional right to religious "free exercise."

The people working for the defense were taken by surprise. William V. Mayer, a prominent developer of curriculum materials in biology, said, "It's like coming here with your football helmet and shoulder pads and seeing the other guys holding baseball bats and gloves. We suited up for the wrong ballgame." Some of Tyler's associates even advised that, if *all* Segraves wanted was a change in a single sentence in the Science Framework, why not give it to him and be done with the affair? Having radically to change strategy in mid-trial, and having to dismiss dozens of well-prepared witnesses (whose testimony would now be irrelevant) left the defense deflated and reluctant to argue over something so trivial as a single sentence. But Tyler suspected that that was just what Turner was hoping for.

Tyler and his associates realized that if one group could, through legal means, force the changing of a sentence, theny any group might in a similar way change virtually any sentence in state-mandated educational materials. Yet prior to the time that those materials had been adopted by the state, they had received the approval of several committees whose members represented a wide variety of public interest groups, including religious groups. There had even been open hearings on the materials before their adoption. If after all this the materials could still be changed in consequence of a court challenge, then the final arbiter of educational materials would become the court rather than duly designated educational agencies. The specter of state censorship, not to mention the consequent intimidation of anyone writing or considering the adoption of educational materials, stiffened the resolve of the defense. It would argue against *any* change in the Science Framework.

Over the next two days Turner pressed the charge that the Science Framework was dogmatic and prejudicial to sincerely held religious beliefs. The defense called some public school teachers to the witness stand who testified that their presentation was not dogmatic. An official in the state's Department of Education even referred to a 1973 Department directive (the original of which was not located) explicitly warning against dogmatic

claims and stressing that evolution be presented as scientific theory rather than fact.

State Department employees continued to testify on Thursday. As they spoke, Tyler and I were devising a new strategy. This was intended only to defeat the claim that the state's promulgation of evolutionary theory constituted an offense to religous beliefs. We reviewed this strategy during a recess in the proceedings, and I was asked to testify immediately afterward. Tyler raised five questions in sequence, the last three of which will indicate the nature of the argument.

Tyler asked whether the teaching of science or evolutionary theory constituted a denial of people's religious beliefs. The answer was negative, since the results of scientific inquiry are not relevant to the substance of beliefs held on religious grounds.

The next question asked whether the teaching of evolutionary theory could be *construed* as offending those who hold certain religious beliefs. This question permitted a brief analysis of the concept of "offensive." It was argued that the term could not properly be used to characterize a thing or an event, in an adjectival sense, but rather always connoted some form of relationship or interaction. Hence no claim, no document, and no action could be held to be intrinsically offensive, but could be deemed so only in virtue of its relation to some particular individual or group who, for whatever reasons, *found* it offensive. (Readers will note that the foregoing applies to pornography as well as to science.) This analysis permitted the conclusion that the teaching of evolutionary theory could be construed as offensive to those whose beliefs are contrary to the canons of science (viz., to seek publicly verifiable truth) and are threatened by the obligation schools have in a democracy (viz., to convey scientifically determined truth in a non-coercive way).

The concluding question in the sequence asked whether, in the light of the offense found, educational materials should be altered so as to remove that offense. At this point attorney Turner objected. Judge Perluss sustained it, observing that the witness was not allowed to answer a question so as to indicate a determination of the case.

But the judge then invited Tyler to make an offer of proof—that is, to indicate why the question was asked and where the argument was going. Tyler was thus able to have it recorded that, when educational materials were expressly designed to help schools meet their obligation to a democratic society, any alteration in those materials solely because certain religious groups took offense would prevent schools from fulfilling that obligation. Furthermore, such an alteration, if ordered by a court, would constitute an invitation to other groups to initiate court action in favor of their beliefs, and would in the long run lead to an unwholesome form of government censorship of education. This argument was entered into the court record. In the

event of an unfavorable decision, the defense could then refer to it as its grounds for an appeal.

Concluding testimony was offered that afternoon. The next day Judge Perluss ruled in favor of the state. He said that plaintiff's religious freedom was not violated by the state's Science Framework, and that no changes in it were warranted. He also ordered the Board of Education to circulate to state educators its 1973 policy directive stressing that evolution be taught as scientific theory rather than fact.

IV. Who Won?

Since a court trial is a conflict between two parties and concludes in a verdict or judicial ruling, it's natural to ask, "who won?" In this case the answer is not so clear as one would expect.

The Sacramento *Bee* announced in its headline for March 6, "Both Sides 'Win' Evolution Case." The reference was to a statement made by Judge Perluss, who told the courtroom (and a nationwide television audience), "I really don't think that either side has lost. I think both sides have won." The Sacramento *Union* differed. Its headline announced, "Creationists Lose, But Claim Victory."

It could be said that the state won, since no change in its educational materials was ordered. On the other hand, Judge Perluss did order the circulation of a 1973 policy directive warning against the dogmatic teaching of evolution. Yet even on this point, the judge said that testimony by state Board of Education personnel had convinced him that the directive already was in effect.

Thomas Jukes, a biophysicist who helped write the Science Framework, said that the trial upheld "the integrity of the Framework and the integrity of the Board." Tyler agreed, saying that, "with regard to the substantive matters in the Science Framework, we won absolutely. . . . We don't have to change the basic policy on teaching evolution in any regard. We just have to disseminate it a little more widely." Yet Tyler felt the Board of Education would be seen as the loser. "We lost the larger polemical battle," he said. "We're mandated to act—no matter how superfluous the act. If we had won, we wouldn't have been mandated to do anything."

Plaintiff Kelly Segraves capitalized on the same issue which disturbed Tyler. Of the judge's decision, he said, "That's all we ever wanted; in some way it's more than we asked for." He felt the ruling had "far-reaching" significance because (contrary to what the judge believed) the 1973 directive "wasn't being applied." Mother Nell seemed almost jubilant. "We won," she exulted. "The dogmatism is removed. As long as they evaluate the textbooks under this ruling, we have got no quarrel." One suspects a little face-saving here, for media consumption.

Thus to the question, "who won?" the answer may be, "it depends on whom you ask." The ambiguity is the eventual result of the unexpected change in the complaint after the trial began. In the March 8 *Bee*, reporter Jaime Diaz speculated about the causes of that change, but he aptly described its consequences:

> The creationists, possibly intimidated by the intellectual muscle of potential state witnesses like astronomer Carl Sagan or worse yet, damning testimony by theologians that the Bible has no place in science classes, opted for a stare-down instead of a philosophical knockout.

V. Summing Up: The Academy in the Courtroom

The state's attorney for the defense, Robert Tyler, spent three months preparing for the creationists' complaint. The scholars with whom he consulted responded to the scope and seriousness of the issues in the complaint with a strong and elaborate defense. The nature of scientific inquiry and verification was to be clearly set forth and contrasted with the nature of religion and religious belief. Evolutionary theory would be exhibited as an instance of science at work, and contrasted in its logical and empirical structure with religiously inspired belief systems. Finally, a case would be made for teaching science (but not religion) in schools that served a democratic society.

But this carefully formulated defense never saw the light of day. Everyone concerned wanted to know why the creationists suddenly modified—and radically reduced—their complaint. Was *Bee* reporter Diaz correct in suggesting that they were intimidated by the "intellectual muscle" of potential state witnesses? I do not think that is likely. Anyone who urges that an alternative to evolutionary theory be taught in public schools is going to expect some well prepared opposition. Had the creationists been intimidated, they would not have filed their suit in the first place.

My own belief is that the creationists never really intended to press their original complaint. I believe that from the start they intended only to press for a small change in language in the Science Framework, fully aware that by winning just a little, they and others could come back to court later and get more. "They are tiptoeing around trying to get their heads under the tent," said Dr. Jukes, who also believed that the creationists' real intent was to lay a foundation for future suits that would lead ultimately to the teaching of creationism in science classes.

But if this was the creationists' intent, why did they begin with so formidable and extensive a complaint? Again, it is my belief that their strategy was to throw the defense off balance. Suppose the state did marshall a host of expert witnesses and construct a a series of elaborate arguments. What would happen if, all of a sudden, the preparation were made irrelevant

by the substitution of a seemingly trifling complaint? Might the defense not be willing to grant a little, having been suddenly relieved of the demand to give a lot? It almost worked. Advised by its scholars, the defense focussed on the formal documents and played by what it understood to be the rules of the game. But what *were* the rules?

Richard Turner, the creationists' attorney, hinted at the rules of his game. He told the *Bee* (March 8), "My job was to win the case. I selected what I thought was the cleanest issue. I'm sorry it wasn't the most popular with the media." Imagine the complaint, then, as a deck of cards. The defense was ready to confront the full deck, not realizing that plaintiff would play only one card. "What you say in a complaint," said Kelly Segraves, "and what you ask for in trial is almost always different. That's just legal strategy." Mother Nell even went so far as to suggest that they never intended to pursue the original complaint. That, she said, "would have been a three-ring circus." (Sacramento *Bee*, March 8).

Perhaps Turner best characterized the creationists' strategy when he told the *Bee* (March 5) that he had not "backed down" on his demands. "When people file a suit in a fender-bender case," he said, "they ask for a million bucks. They don't really expect to get it. That is what has happened here. My clients don't want religion taught in the classrooms. It's unconstitutional." But during the trial, and in the complaint itself, plaintiffs insisted that creation science was *not* religion.

Enough has been said to suggest a radical difference in the approach that each side took toward the issue. The defense utilized scholarship, and its witnesses and consultants operated as academicians are trained to do. Relevant documents were carefully examined and analyzed, evidence was gathered, and arguments were generated that fashioned tight, logical links of evidence and inference. The defense consultants intended—indeed, expected—to win by playing by the rules of a game with which they were familiar.

The creationists, however, took another tack. As Turner said, his job was to win. But if playing by the rules of scholarly inquiry were to jeopardize the creationists' chances of winning, then so much the worse for the rules. A professional boxer is at a disadvantage in a street fight. Just so, academicians, at least in this case, were at a disadvantage in the courtroom. Luckily for the defense, the scholars were only consultants and witnesses, and not responsible for the key decisions of strategy that Robert Tyler correctly made.

Among the things that can be learned from the stillborn Second Monkey Trial is this: being right doesn't necessarily get you the cigar. On the basis of the evidence, there is overwhelming agreement among scientists that evolutionary theory offers a sound explanation of the origins of life. "Creation science" is not only incorrect, but it is not even science. Schools in a

democratic society are obligated to refrain from presenting as science ideas which have no standing in the community of scientists. To the best of my knowledge these statements are true, but these truths bear no implications for how people will act on them.

I can find no reason to believe that in the give and take of the marketplace truth will eventually win over falsehood. On the contrary, it seems to me that the public will act on whatever is most persuasive. While today's specialized scholars are scrupulously seeking after truth, creationists are busy sharpening their instruments of persuasion. This division of interests can have unwholesome social consequences. It may be too much to hope that scholars become politically astute, or even persuasive. But for those who are concerned about the bearing of their scholarship on social issues and public policy, a concern for the arts and the craft of persuasion is a necessity. The logic of a scholar's claims is not enough, for his opponents can be depended on to employ strategies to which logic is not relevant.

In the marketplace of ideas, winning may not be everything. But there are those who feel that, as Coach Lombardi said, it's the only thing. In contrast, scholars are so little concerned about winning that they count it a success when their ideas are falsified or disconfirmed. This attitude is not well suited to the marketplace, which is becoming increasingly crowded with people who have learned that winning is the only thing.

The public is not well served by those who have been taught to win by *any* means. But here we confront a paradox. Only the integrity and care typical of the scholar can expose rascality in the marketplace, yet the public will not recognize this exposure when it is entombed in the scholarly habits of thought and language that only specialists understand.

The Sacramento Monkey Trail has shown us that scholarship alone makes little headway in the marketplace of ideas. We would not want scholars to practice the arts of subterfuge and chicanery in order to make their ideas politically and socially effective. But we need from them a sensitivity to the use of those techniques by others and the ability to respond effectively to those techniques. In these ways scholars could help the public to discover whatever truth may be embedded in all the rhetoric and distraction.

Margins of Precision: Response to the Essay

Creationism and Evolution in the Schools: The Constitutional Issues

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Introduction

The major court cases dealing with the creationism/evolution controversy document a long and emotional history of conflict between literalist and liberalist interpreters of the Bible and between social traditionalists and progressives that has spanned much of the present century and some of the past. The history of this controversy presents convincing evidence that questions of freedom of expression and belief and their relationship to the purposes of public education are destined to recur from time to time—albeit in slightly altered form.

Donald Arnstine's insider's view of a "monkey trial" that fizzled—*Segraves v. State of California*[1]—is a lesson in the politics of litigation and public controversy that will serve the defenders of religious and intellectual freedom well in the coming years.[2] It is staggering to imagine the amount of time that was spent by educators, scientists, and lawyers, not to mention the amount of public money that poured forth from California coffers, to defend the California science curriculum against legally insufficient charges of religious and intellectual bias. Although many important issues concerning science, religion, and education were not addressed in the 1981 *Segraves* case, there have been two major encores in the twentieth-century drama of creationism versus evolution, and there are more to come. In fact, it could even be said that the origional "monkey trial" drama that closed in 1927—*Scopes v. State*[3]—has been completely re-written. That early effort, starring Clarence Darrow for the defense, William Jennings Bryan for the prosecution, and John Thomas Scopes, the teacher who taught evolution to Tennessee children, had new characters and a new ending by 1968 and a whole new plot by 1982.[4] This paper will review the legal issues involved in the

controversies of 1927, 1968, and 1982, and will suggest that those cases have some important implications for the preservation of religious and intellectual freedom in American life.

The particular debate of interest here began shortly after 1859, the year that Charles Darwin published his revolutionary theory of evolution in a book entitled *On the Origin of the Species*. Throughout the last half of the nineteenth century and into the twentieth, the literalist Biblical views of the religious Fundamentalists came increasingly into conflict with new scientific and social ideas. In the 1920's, the Fundamentalists began a major effort to eliminate the teaching of evolution in public schools, hoping thereby to impede the perceived erosion of traditional values.[5] During the decade of the 1920's, anti-evolution bills were introduced in the legislatures of twenty states.[6] From that time until the post-sputnik era, the theory of evolution was little taught in the public schools of the United States.[7] Whether by legal means or social persuasion, the efforts of the Fundamentalists proved successful—for a time.

By 1968, the climate of public opinion had so changed, partly in response to the scientific advances of the Russians, that only two states had anti-evolution statutes—Arkansas and Mississippi[8]—and even those were not generally enforced. Federal money had poured into projects to advance the teaching of science, and the theory of evolution had been thoroughly incorporated into biology curricula throughout the country. At the same time, however, the Fundamentalist movement was reasserting itself.[9]

By the 1970's, the strategy of those opposed to the theory of evolution had been changed to one which sought to require that "scientific creationism" be given "equal time" with the theory of evolution in the science curricula of public schools. Between 1964 and 1980, over thirty bills seeking to require the teaching of creationism were introduced in state legislatures.[10] Some were passed and some were withdrawn, but as of January, 1982, bills were still pending in twenty states.[11] It appears that, at least for the present, the large number of individuals and organizations seeking to have creationism taught in public schools are prepared to continue their fight.[12]

The efforts of the Fundamentalists, however sincere, have the potential to threaten not only religious freedom but intellectual freedom as well. A review of the major legal cases concerning the curricular debate over evolution and creationism will show how the courts, in recent cases, have applied fundamental constitutional principles in a way that preserves both intellectual freedom and freedom of belief.

Legal Perspectives

The notorious Tennessee case of *Scopes v. State*,[13] the earliest judicial test of a state-imposed anti-evolution statute, is now more of an historical curiosity than a valuable legal precedent. In the Tennessee of 1927, there

was a state law requiring the daily reading of ten verses of the Bible[14] and another law requiring an affirmation of belief in God as a precondition to holding public office.[15] Given the widespread belief that the state could intertwine itself with matters of religion, it was almost inconceivable that the state could be without the power to forbid the teaching of views that conflicted with the religious tenets of a major Christian group. A 1925 Tennessee law stated:

> It shall be unlawful for any teacher in any of the Universities, normals and all other public schools of the state . . . to teach any theory that denies the story of the divine creation of man as taught in the Bible and to teach instead that man has descended from a lower order of animals.[16]

It was first asserted by the defense that the meaning of the act was too vague to be fairly used in justifying John Scopes' criminal conviction for teaching evolution. One question raised was whether or not the act was intended to prohibit the teaching of *all* theories which denied the Biblical story, or only the theory of evolution. Although a concurring justice on the Tennessee Supreme Court believed that the act only prohibited the "teaching of a denial of man's divine creation,"[17] and a dissenting justice believed that the act was "invalid for uncertainty of meaning,"[18] two justices were able to assert confidently that the act "only intended to forbid teaching that man descended from a lower order of animals,"[19] and was therefore sufficiently certain in meaning.

The matter of vagueness having been dispensed with, the next issue of importance was whether or not John Scopes had a liberty right, protected by the Fourteenth Amendment, to teach those things he felt to be relevant to the subject of biology. At a time when the state generally had greater authority over the lives of individuals than it does today, and when its economic and contractual powers were considered to be extremely broad, the court had no difficulty in concluding that Scopes, as a state employee, "had no right or privilege to serve the state except upon such terms as the state prescribed."[20]

The Tennessee Court apparently did not consider a pertinent U.S. Supreme Court decision of a few years earlier which dealt with the constitutional validity of a state law banning the teaching of the German language. The Supreme Court invalidated the law, saying that it unnecessarily interfered with the Fourteenth Amendment liberty rights of teachers, parents, and students. "Evidently the Legislature had attempted materially to interfere with the calling of modern language teachers, with the opportunity of pupils to acquire knowledge, and with the power of parents to control the education of their own children."[21] Although the Supreme Court believed that state legislatures had a great deal of discretion in the field of education, it felt that certain fundamental individual rights had to be pro-

tected from arbitrary limitations. Despite this precedent, the Tennessee court did not consider the implications of its decision for students or their parents, and held that the state had complete power to regulate its employees, unfettered by any Fourteenth Amendment limitations protecting individual liberty.

The Supreme Court of Tennessee next determined that the anti-evolution act did not violate the provision of the Tennessee Constitution that required the legislature to "cherish literature and science." It believed the provision was too vague to be judicially enforced.[22] And it likewise concluded that the Tennessee constitutional provision "that no preference shall ever be given, by law, to any religious establishment or mode of worship"[23] was not violated because the anti-evolution statute did not affirmatively require the teaching of anything.

> We are not able to see how the prohibition of teaching the theory that man has descended from a lower order of animals gives preference to any religious establishment or mode of worship. So far as we know, there is no religious establishment or organized body that has in its creed or confession of faith any article denying or affirming such a theory.[24]

The court was unwilling to look behind the language of the statute to consider whether the anti-evolution provision had been religiously motivated.

The practical resolution offered by the Tennessee Supreme Court to the educators of the state in 1927, was to consider the elimination of biology from the state curriculum.

> Those in charge of the educational affairs of the state are men and women of discernment and culture. If they believe that the teaching of the science of biology has been so hampered . . . as to render such an effort no longer desirable, this course of study may be entirely omitted from the curriculum of our schools.[25]

Only four years earlier, in 1923, the Supreme Court of the United States had said that the liberty rights of individuals "without doubt" included "the right . . . to engage in any of the common occupations of life" and "to acquire useful knowledge," but the Tennessee court gave no indication that it was familiar with that precedent.[26]

Noting that John Scopes was "no longer in the service of the state," the Supreme Court of Tennessee said that there was "nothing to be gained by prolonging the life of this bizarre case."[27] Although John Scopes' criminal conviction was reversed on a technicality, the teaching of modern biological science was retarded for almost forty years. The Tennessee statute at issue in the case was repealed in 1967; and in 1975, the Federal Court of Appeals for

the Sixth Circuit struck down a similar Tennessee law saying: "There is and can be no doubt that the First Amendment does not permit the State to require that teaching and learning must be tailored to the principles or prohibitions of any religious sect or dogma."[28]

A year after the Scopes trial in Tennessee, the state of Arkansas adopted an anti-evolution statute modeled on the one that had been upheld by the Tennessee Supreme Court. It prohibited instructors in the state's public educational institutions from teaching "the theory or doctrine that mankind ascended or descended from a lower order of animals," and it prohibited the adoption or use of any textbook that taught that doctrine.[29] Years later, in 1965, the Little Rock school district, for the first time, adopted a biology textbook that contained a chapter on evolution. Susan Epperson, a Little Rock biology teacher, asked the state court to declare the Arkansas anti-evolution statute void.

Chancellor Murray O. Reed, of the Arkansas Chancery Court, gave an opinion that was broadly protective of intellectual freedom. Since the Fourteenth Amendment incorporates the provisions of the First Amendment protecting speech and thought, he held that the statute was unconstitutional because it "tends to hinder the quest for knowledge, restrict the freedom to learn, and restrain the freedom to teach."[30] In a two-sentence opinion, the Arkansas Supreme Court reversed his decision holding that the anti-evolution provision was a "valid exercise of the state's power to specify the curriculum in its public schools."[31] The U.S. Supreme Court disagreed. In its 1968 opinion in *Epperson v. Arkansas*, it said that "it is much too late to argue that the state may impose upon the teachers in its schools any conditions that it chooses, however restrictive they may be of constitutional guarantees (citations omitted)."[32] In one of the most quoted passages in educational jurisprudence, the Court gave its opinion regarding the appropriate scope of judicial review of the affairs of public education.

> Judicial interposition in the operation of the public school system of the Nation raises problems requiring care and restraint. Our courts, however, have not failed to apply the First Amendment's mandate in our educational system where essential to safeguard the fundamental values of freedom of speech and inquiry and of belief. By and large, public education in our Nation is committed to the control of state and local authorities. Courts do not and cannot intervene in the resolution of conflicts which arise in the daily operation of school systems and which do not directly and sharply implicate basic constitutional values. On the other hand, "the vigilant protection of constitutional freedoms is nowhere more vital than in the community of American schools (citations omitted)."[33]

Although the Supreme Court gave some consideration to the broad issues of freedom to teach and to learn, which Chancellor Reed had used to invalidate the Arkansas statute in the first instance, the Court ultimately resolved the controversy on the "narrower terms" of the First Amendment's provisions protecting religious freedom. "The law must be stricken because of its conflict with the constitutional prohibition of state laws respecting an establishment of religion or prohibiting the free exercise thereof."[34]

Unlike the Tennessee Supreme Court in the *Scopes* case, the United States Supreme Court looked behind the language to the purpose of the Arkansas anti-evolution statute. It considered the religious nature of the public appeal that had been made on behalf of the statute, the lack of any other policy justifications for the statute, and expert testimony to the effect that the purpose of the statute was an idealogical one involving "an effort to prevent (by censorship) or punish the presentation of intellectually significant matter which contradicts accepted social, moral or religious ideas."[35] The Court concluded that the statute could not be "defended as an act of religious neutrality."[36] It had been enacted "for the sole reason that evolution is deemed to conflict with . . . a particular interpretation of the Book of Genesis by a particular religious group."[37] "It is clear that fundamentalist sectarian conviction was and is the law's reason for existence."[38] Since the statute had the purpose of advancing religion, it therefore violated the Establishment Clause of the First Amendment, made applicable to the states by the Fourteenth Amendment.

After *Epperson*, it might have been thought that laws seeking to advance the view of creationism, either directly or indirectly, would have been laid to rest. As recent events have shown, however, that was not to be the case. First, there was the *Segraves* controversy in California.[39] Then, in 1982, the state of Arkansas was again back in court with *McLean v. Arkansas Board of Education*;[40] and, more recently, in Louisiana, the state's attorney general is seeking judicial aid to implement a "scientific creationism" law in that state.[41]

The case of *McLean v. Arkansas Board of Education* was the third full-dress presentation of the creationism evolution drama in the twentieth century. The controversy began when Arkansas passed the Balanced Treatment for Creation-Science and Evolution-Science Act in March of 1981. Suit was filed challenging the constitutionality of the statute in May of 1981; and the United States District Court for the Eastern District of Arkansas rendered its opinion in January of 1982.[42]

The major constitutional tool applied in the *McLean* case was a three-pronged test that has been developed by the Supreme Court to determine whether a challenged statute advances religion in violation of the Establishment Clause of the First Amendment. The test provides that a statute, in order to be constitutional, must have a secular legislative purpose and a

primary effect that neither advances nor inhibits religion. In addition, it must not foster excessive government entanglement with religion.[43] An examination of the case will show how this test was applied by the court.

The Arkansas "balanced treatment" act was based on a model statute prepared by Paul Ellwanger, the head of Citizens for Fairness in Education, a group actively involved in state-level efforts to implement "creation science." After examining Ellwanger's depositions and correspondence, the court concluded that the passage and implementation of the model act were part of a "religious crusade" and that Ellwanger, himself, did not believe that "creation science" was truly a science. This, taken in conjunction with Arkansas' "long history of official opposition to evolution," the "unprecedented intrusion in school curriculum," and the lack of legislative investigation into the educational and scientific merits of the act, led the court to infer that "the Act was passed with the specific purpose . . . of advancing religion."[44] The Arkansas statute had thus failed the first prong of the Supreme Court's three-pronged purpose-effect-entanglement test.

Although it had already determined that the purpose of the act was to advance religion, the court went on to explain that even if only the bare language of the act were considered, the evidence would be overwhelming that both the *purpose* and *effect* of that language was to advance religion. Evidence established that the definition of "creation science" used in the act, including concepts such as "sudden creation" and "worldwide flood," were based on the account of creation contained in the Book of Genesis. "Among the many creation epics in human history, the account of sudden creation from nothing, or *creatio ex nihilo*, and subsequent destruction of the world by flood is unique to Genesis."[45] Because a challenged act will fail the effect portion of the three-pronged Establishment Clause test only if its *primary* effect is to advance religion, the court next considered whether creationism had any scientific merit.[46]

Arkansas' "balanced treatment" act incorporated the two-model approach advanced by what the court called the "leading creationist organization," the Institute for Creation Research of San Diego, California.[47] The court said that this approach was a "contrived dualism" whereby "all scientific evidence which fails to support the theory of evolution is necessarily scientific evidence in support of creationism . . . "[48] It concluded that this pedagogy was "fallacious," and that "creation science," as defined in the Arkansas act, "is simply not science" because it does not meet the essential scientific characteristics that it be explanatory, tentative, and falsifiable.[49] This evidentiary conclusion led the court directly to its legal conclusion. "Since creation science is not science, the conclusion is inescapable that the *only* real effect of Act 590 is the advancement of religion. The act therefore fails both the first and second portions of the test in *Lemon v. Kurtzman* (citations omitted)."[50]

Although it is not necessary to show that a challenged statute fails all three prongs of the three-pronged Establishment Clause test enunciated by the Supreme Court in *Lemon*, the court went on to show that the act's prohibition against instruction in religion would involve state educational officials in an inevitable and nearly impossible task of screening textbooks, making difficult religious judgments, and monitoring classroom discussion. The act, therefore, also failed the third prong of the Establishment Clause test by involving the state in "excessive and prohibited entanglement with religion."[51]

Conclusion

Although the *McLean* case is binding only in the district where it was decided, it will be persuasive legal precedent in other jurisdictions that face so-called "balanced treatment" laws. And no court will be able to ignore the Supreme Court's decision in *Epperson*, where the factual situation and the issues considered were similar. The conclusion to be drawn from these two cases, taken together, is that state officials can neither prescribe the teaching of religious views, nor proscribe the teaching of educationally relevant secular materials for the sole reason that they are deemed to conflict with a particular religious ideology. An attempt to impose the religious views of Fundamentalist Christians, by denying a credible scientific theory or by confusing religion with science, will inevitably have the purpose and effect of advancing religion in derogation of the Establishment Clause. As Judge Overton explained in the *McLean* case, the conclusion reached here would not be different even if every person in the state of Arkansas believed that creationism should be taught in every biology course in the state. "No group, no matter how large or small, may use the organs of government, of which the public schools are the most conspicuous and influential, to foist its religious beliefs on others."[52]

If and when the Creationists decide to abandon their attempts to have creationism taught as science, it is foreseeable that they might consider an attempt to incorporate these religious ideas into courses on comparative religion or into social studies units dealing with various religious beliefs. It would still have to be shown that this type of treatment had a secular purpose, a primary effect that did not advance nor inhibit religion, and an absence of potential to entangle the state with religion. To the extent that the beliefs of a wide variety of religious traditions were presented as social facts, and not as truths, there would be little potential for conflict with the First Amendment principles of religious voluntarism and separation. It would also solve a problem of disciplinary ethics for the many science teachers who think that evolution is fundamental to biology and that creationism lacks scientific validity. Students could then learn not only about the beliefs of creationists, but also about the pre-Columbian myth of the creation of human belings out

of corn—the principle foodstuff of the Quiche Indians of Guatemala—after unsuccessful attempts to use wood and sticks.[53] They could study the world view of Taoism, which contains no concept of a creator but which sets forth the belief that all thing follow Tao, the mysterious and natural "road" or "way" of the universe.[54] And they could read from Hindu scriptures. A selection from the Satapatha Brahmana, for example, tells of the one common spirit of earthly creatures.

> Prajapati engenders earthly creatures: may the benevolent ordainer form them,
> Having one common womb, and mind, and spirit. He who is lord of plenty give me plenty.[55]

Such a course of instruction would necessitate that special care be taken to distinguish between studying about religion, in the sense of studying social facts, and studying religion, in the sense of religious indoctrination. It would take a great deal of expertise on the part of the instructor, and a special sensitivity to the religious beliefs of individual students. In the end, it may be that educators will decide that such an effort, although theoretically possible from a legal point of view, would be better left to religious educators and the family. As for those who would seek to engender belief in particular religious views to the exclusion of others, such an effort would obviously not advance their purpose. They may also conclude that students might better study religion in places of worship and in the home.

There are many who hope the courts will come to see, as Chancellor Murray O. Reed of the Arkansas Chancery Court did,[56] that freedom of thought and belief are inextricably intertwined. To preserve intellectual freedom, all First Amendment principles work together in preventing the imposition of particular social as well as religious ideologies. Meanwhile, it is left for those who would advance the case of intellectual freedom to reject coercion and undue paternalism in the public schools; and, at the same time, to support the additional diversity that is provided by private educational institutions. These efforts are not neutral, but rather guided by constitutional principle. It may well be necessary to reaffirm that science is inherently tentative and non-dogmatic, but it is also necessary to reject the campaign for "equal time" for "creation science" as an intellectual perversion of the notions of equality, science, and religion.

It is unlikely that the issues raised by the controversy over the role of creationism and evolution in the public schools of America will end soon. We have over half a century of proof that the underlying questions of how to preserve intellectual freedom and prevent ideological indoctrination will reassert themselves in new forms as we continue our efforts to be intellectually responsible in an ever-more pluralistic society. This is not cause for despair, but evidence of the continued vitality of American life.

Notes

[1] Segraves v. State of Califonia, No. 278978 (Super. Ct., Sacramento County June 12, 1981).

[2] Donald Arnstine, "The Academy in the Courtroom: The Sacramento Monkey Trial," *Journal of Thought* (1983).

[3] Scopes v. State, 154 Tenn. 105, 280 S.W. 363 (1927).

[4] Scopes v. State, 154 Tenn. 105, 280 S.W. 363 (1927); Epperson v. Arkansas, 393 U.S. 97 (1968); McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255 (E.D. Ark 1982).

[5] McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255, 158–59 (E.D. Ark. 1982).

[6] Epperson v. Arkansas, 393 U.S. 97, 101, note 8 (1968).

[7] McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255, 1259 (E.D. Ark. 1982).

[8] Epperson, v. Arkansas, 393 U.S. 97, 101 (1968).

[9] McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255, 1259 (E.D. Ark. 1982).

[10] Gerald Skoog, "Legal Issues Involved in Evolution v. Creationism" Educational Leadership 83, no. 2:154–156 (November 1981).

[11] Robert C. Cowen, "U.S. Scientists Organize to Fight 'Creation Science' Laws," *Christian Science Monitor*, 7 January 1982, p. 9.

[12] Among the organizations which are supporting the teaching of creationism are: The Institute for Creation Research (San Diego, CA), The Creation Research Society (Ann Arbor, MI), The Creation Science Research Center (San Diego, CA), Citizens for Fairness in Education (Anderson, SC), and the Moral Majority. An organization opposing the teaching of creationism, and supporting intellectual and religious freedom and racial equality is People for the American Way (Washington, DC). An organization which monitors the activities of New Right organizations is the Interchange Resource Center (Washington, DC).

[13] Scopes v. State, 154 Tenn. 105, 280 S.W. 363 (1927).

[14] *Ibid.*, p. 367.

[15] *Ibid.*, p. 368 (concurring opinion).

[16] *Ibid.*, pp. 363–64, note 1.

[17] *Ibid.*, p. 369 (Chambliss, J., concurring).

[18] *Ibid.*, p. 370 (McKinney, J., dissenting).

[19] *Ibid.*, p. 364.

[20] *Ibid.*

[21] Meyer v. Nebraska, 262 U.S. 390, 401 (1923).

[22] Scopes v. State, 154 Tenn. 105, 280 S.W. 363, 366 (1927).

[23] *Ibid.*

[24] *Ibid.*, p. 367.

[25] *Ibid.*

[26] Meyer v. Nebraska, 262 U.S. 390, 399 (1923).

[27] Scopes v. State, 154 Tenn. 105, 280 S.W. 363, 367 (1927).

[28] Daniels v. Waters, 515 F. 2d 485, 7490 (6th Cir. 1975).

[29] Epperson v. Arkansas, 393 R.S. 97, 98–99 (1968).

[30] *Ibid.*, p. 11.

[31] *Ibid.*, note 7.

[32] *Ibid.*, p. 107.

[33] *Ibid.*, p. 104.

[34] *Ibid.*, p. 103.

[35] *Ibid.*, p. 107, note 15.

[36] *Ibid.*, p. 109.

[37] *Ibid.*, p. 103.

[38] *Ibid.*, pp. 107–8.

[39] Donald Arnstine, "The Academy in the Courtroom: The Sacramento Monkey Trial," *Journal of Thought* (1983).

[40] McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255 (E.D. Ark., 1982).
[41] *Education Week*, 31 March 1982.
[42] McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255 (E.D. Ark. 1982).
[43] For the most quoted formulation of the three-pronged test see: Lemon v. Kurtzman, 403 U.S. 602, 612–13 (1971). See also Stone v. Graham, 449 U.S. 39, 40 (1980).
[44] McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255, 1264 (E.D. Ark. 1982).
[45] *Ibid.*, p. 1256.
[46] For detailed accounts of the scientific merits of creationism, along with other related issues see, e.g., *Science*, 6 Nov. 1981, 4 Dec. 1981, 11 Dec. 1981, 1 Jan. 1982, 8 Jan. 1982.
[47] McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255, 1259 (E.D. Ark. 1982).
[48] *Ibid.*, p. 1266.
[49] *Ibid.*, p. 1267.
[50] *Ibid.*, p. 1272.
[51] *Ibid.*
[52] *Ibid.*, p. 1274.
[53] Adrian Recinos, tr., *Popol Vuh: Las antiguas historias del Quiche* (Mexico: Fondo de Cultura Economica, 1952), primera parte.
[54] David G. Bradley, *A Guide to the World's Religions* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963), pp. 135–36.
[55] Robert O. Ballou, ed., *World Bible* (New York: The Viking Press, 1944), p. 37.
[56] Epperson v. Arkansas, 393 U.S. 97, 100 (1968).

Authors & Articles

English One and the Literary Society: Lessons from the Past

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The word "crisis" comes up at the most innocent mention of education today. And at the center of the crisis, unaware at the eye of the storm, stands that poor whipping boy Johnny, who can't read or write or, many composition instructors say, think either. Reasons given for his failure are legion: colleges blame high schools for neglecting "basics," high schools blame parents, theorists blame mass culture for diluting common knowledge, everyone blames television. Occasionally the university will even blame itself. When those in higher education do so, the writing problem, central as it is, bleeds over inevitably into wider issues. To decide what a writing course should do, we must know what a liberal education means. To "reformulate aims" and refurbish curricula, we must, finally, know what humanism itself really is.

As we lurch about for answers, out parades a familiar cast: Whitehead, Spencer, Newman, Bacon, Quintilian, Aristotle, Plato, Isocrates, for a start. Yet, fret as we might over these giants, we'll never know whether education should guide students towards fixed, ineffable truth or prepare them for life in this world, or both, until we free ourselves from old patterns of thought long enough to confront honestly certain facts of human motivation. Theory that doesn't answer to practice has cursed educational philosophy since the Greeks. In this century, Robert Hutchins might serve as an example. The late Chicago president would have done well to salt *The Higher Learning in America* with fewer quotations from the *Republic* and *Summa Theologica*, and to have spent more time with undergraduates over beer and sandwiches. Real, red-blooded students can expose clichés like "learning for its own sake" as the stale catchalls they are. No one likes a pure system spoiled less than a theorist, but research and common sense tell

us daily we learn for many other "sakes" as well; when we start to investigate what they are, we are building towards a theory of behavior and a curriculum far sounder than those suggested by volume after volume of traditional educational theorizing.

Instead of reworking the old arguments in the vacuum of abstraction, we should develop new arguments in the rich context of actual experience. When has the higher learning worked best, and why? It is an educational commonplace that medieval or classical systems of learning were great because of "their ancient integrity."[1] But we have a much closer and, one could argue, more successful model in our own temporal backyard. The eighteenth- and early nineteenth-century American college, an expert says, provided "a total educational process that was intellectually solid, rigorous, broad in scope, and surprisingly well-tailored to the character and interests of the individual student."[2] Impressive, and it did so not because a university president ordained it, but because students liked to get together and argue for fun and competition. Education improved from the bottom up, piecemeal, subversively, as students moved to meet real needs—not at the bidding of a Hutchins, Meiklejohn, or Newman.

And what of all this to today's writing "crisis"? I hope to show that the Whigs at Princeton, the Linonians at Yale, and other literary societies knew something important about the way people behave; their organizations were based upon a realistic view of human motivations, one they discovered by necessity, but one which has come in recent decades to be verified by research into sociobiology, and anthropological and psychological theories of play and social drama. Understanding human motives can help free the composition industry and the American student. Setting our writing pedagogy upon firm behavioral ground, we can teach writing differently, more successfully. And in the process we might start thinking differently about the humanities and all of liberal education. Johnny's lot may improve yet.

Poll a few undergraduates of a century or two ago, and the same results keep coming in. "As much improvement is to be derived from the Whig Society as from the College at present," James Garnett wrote home from Princeton in 1813.[3] "No part of my training at Yale College," said F.A.P. Barnard, "seems to me to have been more beneficial than that which I derived from . . . the literary society to which I belonged."[4] One theme is consistent: if the world of the official curriculum was, as Garnett saw it, a "western siberia [sic]," the extracurricular literary society parted the iron curtain.

James McLachlan writes: "By no educational criteria derived from any time, place, or philosophy, can the early 19th century American college curriculum as actually taught be made to look attractive. It consisted almost solely of a drill in Latin, Greek and mathematics, with a cursory view of science and some moral philosophy and belles lettres as the capstone."[5] Not

surprisingly, 16- to 20-year-olds with a continent to conquer found this course of study dry and depressing. The Harvard freshman of 1723 spoke Latin on campus, and recited Tully, Virgil, Farnaby's *Rhetorick*, "ye Greek Testamēt," and "ye Greek Catechism."[6] One hundred years later his manifestly destined counterpart at Yale actually spoke the mother tongue, but, as Jeremiah Day's paean to inertia, the 1828 Yale Report, proudly acknowledged, the basic curriculum had changed little. With "some moral philosophy and Belles Lettres," the senior year perhaps did improve slightly, but the total experience still promised little but dreariness to most students. In the hands of a Mark Hopkins, the moral philosophy course could provide a heady infusion of politics, theology, and aesthetics; there weren't, however, enough logs to go around, and the course often meant only a college president's personal opinion and numbing repetition. In 1828 "Belles Lettres" more likely stood for drills in English grammar than for a healthy breath of Hugh Blair.

Horace Greely pointed a generation of young men in one direction; college tried to point them in another. Perhaps because they originated as virtual clergy training centers, colonial and early nineteenth century colleges aimed to inculcate piety. They tried to shape man up for life in the next world, not for the pleasures and challenges of this. With both eyes on eternity, like Sir Thomas More in *Utopia*, educators could banish human individuality and the immediate concerns of real life as so many incidentals. Ethics can't be situational in such a world. Neither tool nor toy, rhetoric wilts to the obsessive recitation of rules that almost never square with practice. Language is something one must get past or see through, for "truth" alone matters; when it was ever studied *as language* in the curriculum, it served only as grist, raw material to keep the student's nose to the gerund grindstone. Student life, officially, was autocratic, stifling, rule-oriented. Everyone followed the same course of study because, officially, everyone had the same goal, heaven.

The presidents of Trinity (now Duke) and Amherst wrote, respectively, that "without religion a college is a curse to society" and that "character . . . is of more consequence than intellect."[7] Yet, crusade as their presidents might for the life of the soul, American undergraduates consistently chose the life of the mind and the concerns of the world. The establishment of literary societies at most colleges implied that students wanted more from their educations, that they wanted balance. They did not reject piety—many debates dealt with theological issues—but chose to augment it, to believe that man has many goals, varied motives. Adam came from clay and God's breath; universities officially forgot the former to isolate the latter as man's ineluctable essence. Interestingly, when students applied their corrective to this view, the extracurricular societies, they met little resistance and even some tacit cooperation. The same administration that controlled the curricu-

lum often advised freshmen to join a literary society. Yet, though they intuitively sensed its value in creating a truly "whole" person, decades passed before the official course of study began to assume the educational role of the societies.

First with Harvard's Spy Club in the 1720's and later in earnest with Yale's Linonians in 1753, the revolt was on. An autocrat's subjects became democrats; receivers and listeners became participants, readers, speakers; potential Roundheads became Cavaliers. In the literary society, knowledge was not drilled and drilled in mercilessly, but discovered and experienced. The groups offered speakers the more orthodox faculty shied away from; Emerson, virtually taboo after the Divinity School address, toured the nation's literary societies. The students maintained libraries as untraditional and daring as their roster of speakers. Members of the Princeton Whig Society, for example, read *translated* classical authors, Rousseau, Byron.[8] In addition, the societies' libraries were usually much larger than those of the universities, and certainly more accessible; many faculty members even joined clubs just to draw on their library resources. If for no other reason, the literary society changed U.S. higher education by allowing its members freer access to fresh new ideas and information.

Still, it took more than books and some good speakers to consistently draw rave notices. In 1854 a Yalie echoed Barnard, Garnett, and their mates in colleges throughout the land. Literary societies, he said, "have done more for making men than all the rest of college training put together . . . They are the schools which train . . . best for the practicalities of . . . [the] world."[9] Key words here are "schools" and "making men." "Schools" because the students looked upon their activities as pedagogically serious. Far from the loose social world of the fraternity system they eventually spawned, the societies were fully functioning institutions. "Colleges within colleges . . . they enrolled most of the students, constituted—and taught—their own curricula, granted their own diplomas, selected and bought their own books, operated their own libraries, developed and enforced codes of conduct among their members, and set the personal goals and ideological tone for a majority of the student body."[10] The most remarkable thing about the societies is that, if we can trust the students whose lives they so deeply affected, they managed to institutionalize the *making of men*, ignore the sexist anachronism "men" and call the quality *sprezzatura* as Castiglione did in *The Book of the Courtier*, or *arete* as the Greeks did, or wisdom, citizenship, intuitive judgment—it goes beyond memorized facts and rules, generalized warnings to be moral, or the assimilation of a given amount of knowledge. We easily recognize the quality—what puzzles us is how to produce it.

Academicians cast about incessantly for a formula, a magic potion of certain set ingredients, that will turn the educational trick without fail. It

seems, however, that the proper metaphor might not be "potion," but a soil of the right composition. The official curriculum of the nineteenth century was a formula which, after force-feeding, ideally brought on certain effects; the literary society, on the other hand, offered earth to take root in, a situation, a medium for growth. In the former, the onus was on the educator as gardener, in the latter on the student. Chance, personality, social interplay, and motives other than purposive sincerity don't figure in the first, but dominate the second. The literary society managed to "make men" and train them for the "practicalities" of the world because it was just that, a "society." It gave them a real social situation in which to practice being civilized—and what better way to do this than by regular practice with words, "the medium of conscious life"[11]? Being consciously, fully human takes rehearsal, and literary societies literally provided the stage. Membership meant frequent, formalized debate. And when students weren't at the podium arguing, ritually and aloud, before the society's other members, they were doing so silently in regularly assigned compositions.

Disputation played a part in the official curriculum from its earliest days, but curricular debate always lagged a pace or two behind its extracurricular counterpart. Until nearly 1750, the officially sanctioned method of debate was the syllogistic disputation. Always in Latin, governed rigidly by medieval ground rules and principles of logic, and leading inexorably to a preordained "true" conclusion, it had all the drama of a Russian election; understandably, students yawned. Yet, a quarter century before Harvard abandoned Latin, its Spy Club was discussing "Two or more questions at every Meeting" in English. During school students saw a series of fixed fights, truth vanquishing evil and folly, but after hours they redesigned the ring for their own purposes. Forensic disputation soon replaced syllogistic disputation in the literary societies. With a wider range of potential questions, greater room for emotion and less for mechanical logic, debate became more complex in its appeals and motivations. It continued to change. By the 1760's, as universities timidly began to approve the forensic mode, the collegians had already dropped what they felt was restrictive in the earlier method. Extempore disputation might be fully impromptu, but more often it involved preparation that stopped short of memorized set pieces; in either case, by dispensing with written, elaborately prepared speeches and taking on even more topics, the societies showed a growing regard for limberness of mind and for style's necessary adaptability to occasion.

The undergraduate of, say, 1790 no doubt knew "ye Greek catechism" well enough, but he also knew that its encapsulated morality meant little if it didn't breathe the same air as people. As debate records show, the First Amendment came to count as much for him as the Ten Commandments. Excepting the self-imposed censorship of several groups, literary societies

felt free to examine nearly any issue, often taking on problems many of their elders ignored: slavery, xenophobia, capital punishment, expansionism, suffrage, secession, Indian rights. Traditional religious questions (the Spy Club in 1722 wondered, "Whether the Souls of Brutes are Immortal?") and classical rhetorical saws (Brutus' guilt) gave way soon to these, the hot issues. In general, secular topics replaced the philosophical or religious as items of concern; in fact, by the nineteenth century the latter rarely figured unless they were given a social cast. The present, this world and a dynamic, living relationship to it, mattered to undergraduates; the past, theory, rules and repetition they got in school.

Something was rotten with colonial and nineteenth-century education, and students knew it. Records of the societies catch them examining the college and its relationship to their lives with a frequency surpassed only by their response to current political issues. "Is the present system," they asked in society minutes, "calculated for entrance into practical life?" Should Yale's regulations offer "an opportunity to pursue different courses of study?"[12] Well, they should be conscious about their schooling, for American undergraduates were renewing a quarrel as old as the Western tradition itself. Intuitively, with common sense, genetic logic, and little else, they bore an ancient banner into a ancient fray. The two sides? H. I. Marrou breaks them into the "philosophical" and "oratorical" camps, Richard Lanham into the "serious" and "rhetorical."[13] Either way, they stand for two disparate cultures and traditions, two radically different ways to view the world.

The issues, briefly, are these: Western man really has two masters, Plato and Isocrates. Plato, of course, asserts the claims of truth, permanent, immutable, otherworldly. Platonic idealism discounts individual actions for general truth, the present for eternity; the great man breathes the fine air of the ideal and doesn't care if he's an ineffective misfit in the world. Standards are absolute, culture serious and philosophical. Words can only be deceptive—style is mere ornament for "content." Isocrates leads a different band. Plato aimed too high—man's life, the sophist says, takes place in the world, and he better learn to get along in it. He needs to know himself and how to manipulate others. Thus the central role of rhetoric in sophistic culture. Reality changes as situations do—he who commands the *logos* commands unstable reality. Standards are negotiable, not absolute. Obviously, language is central in rhetorical culture, a way to achieve practical ends; it is, in fact, a device for maintaining reality itself, which is social and contextual.

Twenty-five hundred years later in America, the same old paradigm. "Serious" culture was alive and ill in the traditional curriculum; rhetoric thrived in the literary societies. The organizations themselves often had Greek names—Demosthenian, Philolexian, Cliosophic—perhaps because

they knew the ancient source of their discontent. By day students lived in the Republic; by night they struggled for sophistication that hearkened back to its etymological root. The result was an education that worked, successful *because* schizophrenic. Pure educational systems—whether from Plato's *Republic*, More's *Utopia*, or the Yale Report—have tended to view man as only serious, philosophical, and purposive. Cut off from the other motives that make man go, they quickly atrophy into tyrannical force-feeding and little else. American undergraduates thought differently, realizing that, if education was a temple as the Greeks saw it, it had at least two columns for support. Renaissance rhetoricians viewed logic as a closed fist and rhetoric as an open palm. American students knew that man has two hands.

Behind colonial higher education stood the assumption that the student is an angel in embryo. Behind the literary society crouched the notion—pre-Darwinian and subversive—that the student is a young role-playing primate, having fun and aggressively seeking status. In the twentieth century, new disciplines have given us the language to understand and discuss these assumptions. Sociobiology—still suspect because of a strong Platonic bias in Western thought—and theories of play and social drama have broadened our view of human motivation. Behavior may be purposive, but it may also range from competitive to imitative to just plain playful. Knowing this, as undergrads did two centuries ago, educators can begin to fit the schooling to the person, begin to mix and balance motives in education as they are in life.

Admitting a full range of human motivations presupposes a particular view of the self. The curricular architects of the eighteenth and nineteenth centuries, Platonists all, saw the self as central, fixed, inevitable—what a person really and always *is*, not what he *seems*. Their students went the other way. By insisting upon debate, ritualized social interaction, as their chief pedagogical tool, they view the self as flexible and shapeable—a series of roles, if you will—always *becoming*, never *being*. The paradigm again: static vs. dynamic modes. The latter view has found increasing support in this century. George Herbert Mead, for example, argued that self is formed by society and the roles one plays in it. According to his theory of "social behaviorism," the self grows from the outside in and not vice versa; the shell comes before the pearl. Other thinkers, from Dewey to Ortega to Eric Berne, support this notion. On the way, the feeling that appearance—style itself—is ornament, not essence, gets reversed. Literary societies apparently understood this conception and applied it to verbal style. Although there was no set pattern for judging debates, the general rationale for decisions rapidly underwent a shift. In the 1700's, the merits of the question mattered; by the nineteenth century, most societies judged according to the merits of the debate alone. In school, "content" and the notion of a single real truth dominated. In the societies, each new situation offered a chance to recreate a new truth. Style counted.

We are not awarded with a guaranteed, gold-plated self at birth, but act it out and write our script bit-by-bit. We try to learn style, how to get better at acting it out. Sociobiological research can tell us about this dynamic process of growth and the learning that accompanies it. "This view of human behavior," say Fox and Tiger, "makes the organism an active, searching, and stubborn participant in the learning process, rather than a receiver . . . He is not a receptor only, but a seeker-out, a seemingly inexhaustible investigator."[14] Students knew this as their college presidents did not. They also knew that "education has only a little to do with the transfer of objective information. Its purpose—and it starts at birth and continues into old age—is to produce acceptable members of the community." A version of this goal, in Educational Cliché, is the production of the Whole Man. Students realized it was hard to coax a whole man into being unless his education involved the whole person—and that included not only his "higher" logical processes but certain pesky evolutionary leftovers as well. Again from *The Imperial Animal*: "to concentrate solely on these rational processes is to ignore the satisfactions and conditions under which . . . rationality operates effectively." Early American undergraduates, like all students, learned not just because they wanted to go to heaven or because learning is a traditional value in civilized life. They tossed competition and fun into the stew. By spicing and stirring up a pure system based only on purposive motive, they linked education vitally with "real life"—as it should be.

We all compete, and we need no psychologist to tell us this. Equally true, though, we often have a bad conscience about it, particularly in education. Grades have been, and always will be, abolished regularly at various universities throughout the country; learning then seems so pure, so ideal. But, as testified by the high number of institutions that switch back, such purity really only belonged at the University of Eden. Cain and Abel didn't escape the notice of the literary societies. Students knew that ritualized argument allowed the expression of, but neatly channeled, natural aggressions. They were aware that many students wanted jobs beyond the ministry; beyond the debate lay the feeling that it would prepare its participants for the competitive rigors of a career, particularly in law or public life. The societies made sure that debates were always judged and that compositions were graded by senior members; competition soon spread to inter-club debate. The literary societies deliberately built in such mechanisms to satisfy natural hungers for peer approval and status. And, Frederick Rudolph says, "the debater, the orator, the essayist were the heroes of the extracurriculum."[15]

If the debating club fulfilled certain innate needs by its competitive nature and its formalizing of social drama, it didn't neglect another important human ingredient, sheer playfulness. Twenty-year-olds, to be blunt, would not have set up literary societies unless they enjoyed them. Many human actions lie beyond the competitive or purposive pale—we do some things

entirely for their own sake (and here learning-for-its-own-sake people are right about a *part* of human motivation). How else can we explain a kid's nonsense rhyming, playing rugby, or buying a Cuisinart? They may serve some other purpose—learning language, exercise, efficiency—but their root impulse is play. So it is, or should be, with education. Students played at debate and, in the process, they learned about style and its relation to societal and personal roles. Sociobiologists feel that "playfulness is the basis of successful learning."[16] Serious play certainly fed into the jumble of motives orchestrated by the nineteenth century extracurriculum. Implicitly recognizing the importance of social drama, the literary societies said the play's the thing. Play, they also knew, was the thing.

When we move to the 1980's and try to apply the findings of the literary societies to our situation, particularly in the area of composition instruction, we seem to run into the walls of several questions. Chief of these: If the extracurriculum made such a hit, where is it today? For the most part, the American literary society broke ranks about a hundred years ago. Its social and educational functions, once of a piece, scattered—the former into the new fraternity movement, the latter mainly into the liberalizing official curriculum and into the forensics societies that still survive at some universities. Next: Is it valid to transfer insights about an educational system and counter-system long dead to our sprawling college and multiversity systems? Can we seek inspiration from student groups that now exist only in name as, for example, a library at Yale (Brothers) or an honorary intellectual fraternity (Phi Beta Kappa)? The answer is a clear yes. For one thing, we are talking about basic questions of human motivation and behavior, unchanged since before Plato and Isocrates started their quarrel. And, beyond this, the particulars of the two situations differ far less than might first be imagined.

Think about writing pedagogy today. An underpaid T.A., mind hard on his thesis, faces twenty-five ill-prepared freshmen. Their shopping bags are at the ready; the curriculum waits unorganized on the shelves. The instructor, who can probably write, must see to it that his students learn to, and in ten weeks. Their holy book: one of a dozen composition texts on the market, "The Books" as Richard Hanham calls them.[17] In its inimitable fashion, the Book will tell them general, "true" things, however inapplicable to particular instances. It will urge them to "Make Defensible Assertations," "Use Facts and Figures Properly," "Use a Topic Sentence." Above all, it will sing, or drone rather, the sacred duty to be Clear, Brief, and Sincere. Sound familiar? It should, for it's just "ye Greek Catechism" applied to verbal style. It embodies a conception of the self as wrongheaded as Jeremiah Day's. "Clarity" implies one reality to be clear about. "Brevity" sees language as an obstacle, something to be dispensed with. "Sincerity" figures on an inviolable, immutable core self to be faithful to. The Book's model is for saints and angels, not us fallen kind. We don't always

act—or write, our immediate concern—for pure motives; any notion of a normative prose style ignores the way things are. If thought was all that counted, a popular myth, why would people write or speak the way they do? If all we wanted was the transparent, scientific clarity of Bishop Sprat and the Royal Society, how could we account for the "Checkers" speech, Woody Allen, bureaucratic jargon, any kind of poetry?

In today's college curriculum, English 1 often provides the student's sole glance at verbal style as verbal style; if it fails to do this, instead ladling on the Clarity-Brevity-Sincerity, it fails as a course. Words make us conscious, civilized beings. It is vital to understand the relationship of their arrangement—verbal style—to the individual's reality as a social being. The literary society was tailored to a conception of the self as a complex of dynamic, varying roles. It did so by giving its members the stage for a series of situational reenactments. A debater gets by with words alone, and he had better be conscious of them, his audience, the social context, the issue. Style, in other words.

With the literary societies gone, the responsibility generally falls to the composition instructor to inform his students about the centrality of style in conscious life. Alerting them to notice style as such results from a kind of circular process: the teacher makes students aware of their varied motivations while playing upon these very motivations. Pedagogical technique that assumes purposive behavior alone makes an instructor's task even harder. Why not load every chamber in the revolver? Bring in competition, context, fun, role-playing.

The literary groups created fully functioning societies, "little republics,"[18] that worked as successful schools. If the composition classroom can't be made a little republic, it can at least approximate certain aspects of one. In a real human society, we talk differently, play different roles in different situations. Essays too must always—as self-consciously as possible—live in real social contexts. For example, many students these days would rather work for IBM than save the world. Instructors should play with that job motive (every day becoming a sharper prod, it seems). We write differently for the boss than for husband or wife, sociology professor, newspaper editor, political constituency—students should know this, realizing that each audience offers unique stylistic opportunities. And risks, for the classroom-society must punish foolishness or bad judgment briskly, just as it must reward stylistic effectiveness. One way to encourage a sensitivity to audience is to have students criticize each other's work publicly and privately. Before a peer's special gaze, competition can mean more than just grades. And one audience the freshman writer mustn't neglect is himself. Frequent, highly self-conscious revision is socialization in small, seeing yourself as the role-playing creature you are, seeing one style as just another easily alterable version of the self.

Add to this blend of motives. Why not have fun with cliché or jargon? Imitate it, assume its writer's role, understand the situation that produced it, "translate" it. To criticize any style out of hand is to miss its point. To view a style, out of its context, as too plain, ornate, casual, formal is to dehumanize the prose and its author. Prime Federalese, Hunter Thompson, or Ernest Hemingway, it's human utterance adapted to certain needs, charged by a range of motives. If we do put students through the normative prose mill, we're back to the colonial curriculum and its notion of "truth": One Law for the Lion & Ox. Students, citizens in a democracy, should know that "truth" is generally negotiable.

A panacea it isn't, but the mandatory composition course could begin to introduce a student to himself and his world, as it gave him a tool to get by in it. It could provide a climate in which to grow, try on new selves, and see them tried on by others. Attuned to verbal style, a student can write and read better; knowing its subtleties and motivations, he can begin to recognize, and feel, the varied spurs in man's side and some of his delights. With work and a shift in attitude, the writing course might become as essential to our crisis-torn liberal education as the extracurriculum was to the curriculum two centuries ago. It's central to the humanities because it's about being human.

Notes

[1] Robert Maynard Hutchins, *The Higher Learning in America* (New Haven: Yale University Press, 1978), cover note.

[2] James McLachlan, "*The Choice of Hercules:* American Student Societies in the Early 19th Century" in *The University in Society*, Vol. II, ed. Lawrence Stone (Princeton: Princeton University Press, 1974), p. 485. In this essay I draw heavily upon McLachlan's article for my knowledge of the literary society; the work of Rudolph and Potter has also proved valuable.

[3] McLachlan, p. 473.

[4] Frederick Rudolph, *Curriculum: A History of the American Undergraduate Course of Study Since 1636* (San Francisco: Jossey-Bass Publishers, 1978), p. 97.

[5] McLachlan, p. 466.

[6] David Potter, *Debating in the Colonial Chartered College: An Historical Survey, 1642–1900* (New York: Columbia University, 1944), p. 2.

[7] Frederick Rudolph, *The American College and University: A History* (New York: Vintage Books, 1962), p. 139.

[8] McLachlan, pp. 478–80.

[9] Rudolph, *Curriculum*, p. 97.

[10] McLachlan, p. 472.

[11] Richard A. Lanham, *Style: An Anti-Textbook* (New Haven: Yale University Press, 1974), p. 1. Throughout, I am in debt to Lanham's discussion of motives and writing instruction.

[12] Potter, "The Literary Society," passim.

[13] H. I. Marrou, *A History of Education in Antiquity* (New York: Sheed & Ward, 1956); Richard A. Lanham, *The Motives of Eloquence: Literary Rhetoric in the Renaissance* (New Haven: Yale University Press, 1976).

[14] Lionel Tiger and Robin Fox, *The Imperial Animal* (New York: Dell, 1971), pp. 30, 189. Quotations immediately following are drawn from pages 183 and 185. I use Fox and Tiger as

my particular source, but the principles they espouse are common to a considerable number of sociobiologists and psychologists.

[15] Rudolph, *Curriculum*, p. 96.

[16] Fox and Tiger, p. 181.

[17] Lanham, *Style: An Anti-Textbook*, chapter one.

[18] David Potter, "The Literary Society" in *The History of Speech Education*, ed. Karl R. Wallace (New York: Appleton-Century-Crofts, Inc., 1954), p. 256.

Henry Adams and the Decline of the Modern West

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More than six decades after his death, Henry Adams (1838–1918) remains one of the nation's most profound and disquieting thinkers. The texture and tone of his thought owed much to his own personal inclinations, but Adams's reflections on western society also bore the marks of his restless age. The last years of his life in particular corresponded with a vast upheaval in western civilization, a series of events which continue to shape the contours of existence nearly a century later. More prescient than most of his contemporaries, Adams was one of the first to glimpse the unsettling outlines of the twentieth-century human condition, especially its intellectual confusion, its denial of moral and scientific absolutes, and its doubts about automatic progress.

It was in the autumn of 1891, near the end of his round-the-world voyage with John La Farge, that Adams drifted into the world of fin-de-siècle Paris and began to suspect that modern civilization might be on the brink of some great disaster. Wherever he looked the cultural and intellectual forces of the nineteenth century were in retreat. Artists and writers discarded conventional form and content in an effort to delineate life more realistically, while social critics exposed the bankruptcy of liberal bourgeois politics and laissez-faire capitalism. Philosophers and scientists joined the attack, rejecting natural law in favor of a shifting, pragmatic view of reality.

In this bizarre welter of upheaval and criticism Adams found a mirror image of himself and his society. It was as if his whole life had been a preparation for this moment of confluence and recognition. For the better part of three decades his doubts about the American experiment had mounted. Then, shattered by his wife's tragic suicide in 1885, he had fled into constant, restless travel. During the past year he had actually found a measure of peace in the island paradises of the South Pacific and throughout his sojourn he had been cheered by the prospect of a reunion with the beautiful Elizabeth Cameron. But their rendezvous in Paris went badly and La Farge had to return to the States. Brooding and alone, Adams began to lament his own and his family's dwindling fortunes. His generation, the fourth of a brilliant and successful line, would never equal the achievements

of its forebears. At the end of the nineteenth century the American people had no use for the Adamses' beliefs in selfless public service, social and intellectual deference, and natural law. Henry belonged to a dying elite whose values were as defunct as its power.

Adams's life thus provided him with a unique vantage from which to view a vast upheaval in Western civilization. While his more satisfied American contemporaries gloried in their soaring material wealth and military might, Adams saw in this very success the seeds of decay. But America was not alone, for conditions in the United States closely paralleled those throughout the modern West. The old world was much sicker than the new, however, and this was nowhere more evident than in France where Adams took a ring-side seat for the continuing spectacle of social and intellectual degeneration. "The decline of France is obvious," he wrote to his English friend Charles Milnes Gaskell, "but France merely leads. Decline is everywhere."[1]

At first Adams was content to observe and catalogue the mounting signs of decay, but his curiosity soon led him to investigate the roots of impending collapse. As he probed more deeply into the causes, his speculations were less and less grounded in actual places or events. But in the early nineties, he was eager to seize upon reported increases in suicide, violent crime, divorce, insanity, and alcoholism.[2] Just as alarming was what he interpreted as a degeneration in the arts. Impressionist painting and music as well as realist and naturalist literature all represented a deterioration in creativity and undermined traditional aesthetic unities. Worst of all, contemporary novelists depicted men and women as amoral brutes, bereft of those moral and intellectual faculties which distinguished human beings from the rest of creation and which lay at the heart of all civilized life.

Adams's sense of humor rarely wavered and he even reveled in each new piece of damning evidence. With characteristic wit he wrote to Elizabeth Cameron, "Imagine my state of happiness, surrounded by a pile of yellow literature, . . . swallowing a volume of Maupassant with my roast, and wondering that I feel unwell afterwards."[3] Helpless to reverse the trend, he could only "hold [his] tongue, and vomit gracefully . . ."[4]

Although the seaminess of realist literature distressed Adams, he must have agreed with much of its social criticism, for he had no more tolerance for the grasping entrepreneur than Zola himself. He also found support in Karl Marx's dire predictions about capitalism: The system would destroy itself as overproduction led to increasingly severe depressions and as competition for overseas colonies plunged industrial nations into mutually destructive wars. Marx's prognostications helped Adams, as well as his brother Brooks, to understand the worldwide depression of the nineties and the subsequent increase in imperialist designs. Indeed, Brooks frankly admitted his debt to Marx in the writing of his *Law of Civilization and*

Decay, a book that Henry held in the highest regard. But Marxian socialism was another matter altogether. Adams bridled at the very thought of a classless society and he denounced socialism as "the hollowest humbug ever yet struck in history . . ."[5] "The growth of socialism," he added, "is obviously only [the] disintegration of society."[6]

Adams was just as skeptical about reformers who proposed to repair the obvious flaws in modern liberal governments. Nineteenth-century liberalism had met the political and economic needs of mid-century, but it was helpless in the face of mature industrial society. The greed of bankers and businessmen brought corruption to every level of American and European life, but the breakdown of liberalism was most blatant in France during the Dreyfus Affair. Adams followed the Affair with both interest and revulsion, condemning the Jews for their alleged cupidity and the Third Republic for its dishonesty and incompetence. Like socialism, the Dreyfus Affair was one more mark of decline. "The Dreyfus business," he proposed to his confidant John Hay, "reflects the whole social, economical and political condition of the country,—the hopeless collapse of the machine."[7]

Every year the list of decadent symptoms grew longer and, in the midst of his compilations, Adams discovered a kindred spirit in Max Nordau. Born in Hungary and settling in Paris, Nordau had achieved wide popularity as a writer and journalist. In 1892 he created a sensation with his *Degeneration*. Adams came across the volume three years later and took morbid delight in its revelations of decay. So closely did Adams agree with Nordau that he wrote to Gaskell, "I must be inventing a book in a dream . . . I thought I saw myself, but run mad and howling."[8] Like Adams, Nordau collected sheaves of evidence on the disastrous state of modern civilization. For him, as for Adams, such evidence announced the complete breakdown of those ideas which had sustained the West since the Renaissance: free will and progress; moral certitude and natural law.

In Adams's opinion this set of ideas had achieved a peak of effectiveness and acceptability during the middle decades of the nineteenth century, particularly as expressed in the writings of John Stuart Mill and his school. Now Mill's works were simply reminders of a vanishing world. To Gaskell, who had shared his youthful enthusiasm for Mill, he wrote, "When I think of the formulas of our youth,—when I look at my old set of John Stuart Mill,— . . . I feel that somewhere there is the biggest kind of a joke."[9]

Amusing though it was to total up the signs of decline, Adams eventually began to look for causes. Principal among these was a moral and intellectual confusion which stemmed in part from what Adams called the acceleration of knowledge. As the twentieth century dawned, the proliferation of new knowledge disrupted all areas of existence. The rate at which men uncovered additional facts about themselves and their universe simply outstripped anyone's comprehension. The old generalizations could not absorb the

torrent of data without breaking down altogether, and it seemed unlikely that another Thomas Aquinas or Herbert Spencer would step forward with accommodating new formulas. In consequence, multiplicity and confusion reigned unchallenged, introducing an atomosphere of uncertainty and helplessness throughout contemporary society.

The Columbian Exposition of 1893 reaffirmed Adams's fears. While millions of visitors marveled at the country's industrial might or extolled Daniel H. Burnham's masterful job of architectural planning, Adams stood before the latest machinery on display and was filled with anxiety. Most alarming were the giant dynamos whose glistening pistons and flywheels spewed forth alternating streams of dancing electrons, sending their strange energies to distant factories and homes to perform unknown work and to alter society in ways that none foresaw and that none was prepared to comprehend. Here was a perfect symbol for an age which was leaping headlong into intellectual chaos.

Two years later, while touring French cathedrals with the Cabot Lodges, Adams found in the Virgin of Chartres just the right symbolic foil for the dynamo. Ignorant of strict theology, the laity at Chartres and elsewhere had relegated Father, Son, and Holy Ghost to secondary positions and approached them only through the Virgin. She united all Christendom in the hope of salvation; she offered purpose and direction to life. For Adams she epitomized the spiritual and intellectual unity of the high Middle Ages, an age in stark contrast to his own. Again and again he reflected on the symbols of dynamo and Virgin, finally exploiting them with telling literary effect in *Mont-Saint-Michel and Chartres* and *The Education of Henry Adams*.

But Adams was not content with mere aesthetic comparisons and decided to approach the question of intellectual acceleration through scientific analogy. Many others had taken such an approach over the past two hundred years, and especially in the wake of Darwin's *Origin of Species*. In *The Education* Adams chose Newton's law of gravity to explain the knowledge explosion of the twentieth century. The crisis actually had been building for thousands of years, as the human mind learned more about its surroundings at an increasing rate. This intercourse between mind and nature, Adams maintained, resembled a comet's elongated orbit around the sun. The primitive mind was like the comet at aphelion. As it slowly moved toward the sun (or nature in Adams's analogy) its velocity increased until it reached perihelion and then began the long decelerating journey back into space. If the analogy were correct, mind would reach its limit of acceleration, resulting in intellectual stagnation or decline.

Still unsatisfied, Adams attempted another acceleration analogy in a pamphlet addressed to professional historians entitled "The Rule of Phase Applied to History." This time, taking a page from Auguste Comte, he took up Josiah Williard Gibbs's formulas for the chemical equilibria of

heterogenous substances and applied them to what he called historical phases. According to Adams, historical phases resulted from a temporary equilibrium between the human intellect and its surroundings. Because mind and environment interacted at an accelerating rate over time, each phase was bound to be shorter than the one before. Returning to the comet comparison, he calculated that a given phase would be shorter by the square root in years of its predecessor. As a frame of reference he began with what he labeled the mechanical phase (1600–1900), named for Newton's mechanistic universe, and figured that the previous religious phase had lasted about 90,000 years, or the square of 300. The subsequent electrical phase (1900–1917) would be equal to the square root of 300. Next would come the four-year etherial phase, ending around 1921. By then the human mind would have reached the limits of expansion, extinguishing the dynamic energies of the modern West.

The particular figures and dates actually were of little consequence to Adams who saw his analogies as mere aids to comprehension. But he was sure that civilization was about to reach a blind alley wherein both reason and reflection could cope no longer with twentieth-century life. And although Adams took his analogies from the physical sciences, his conclusions were thoroughly organic. Like Oswald Spengler a few years later, Adams insisted that all civilizations passed through a series of stages until they exhausted their potential for growth.

Just as threatening as the acceleration of knowledge was the pragmatic rebellion. Not only did it add to intellectual confusion, but it also struck at the very bases of Western morality. For Adams pragmatism was a departure from five thousand years of written history. Always and everywhere men had proclaimed the existence of absolutes, whether religious, philosophical, or scientific. Even the rationalism and empiricism of the eighteenth century had not sapped society's belief in eternal verities. The *philosophes* may have challenged divine order and purpose, but they took comfort in natural law. Nineteenth-century thinkers had followed suit, many exulting in the evolutionary synthesis. In this very moment of triumph, however, men like Carl Pearson, Henri Poincaré, and Ernst Mach alerted Adams to a revolution in scientific and philosophical thought. Gone were Jefferson's "Laws of Nature and Nature's God"; in their place were sterile and ever shifting probabilities.

William James and Oliver Wendell Holmes, both fellow New Englanders, might rejoice in the freedom of a functional universe, but Adams longed for "his eighteenth-century education when God was a father and nature a mother, and all was for the best in a scientific universe."[10] Without moral truths individuals as well as nations were bereft of goals beyond mere survival; men were free to act on expediency alone, without the slightest concern for morality or high ideals. Adams already had witnessed the sad

results in moral confusion and rising violence. " . . . He [had] watched mankind march on, like a train of pack-horses on the Snake River, tumbling from one morass into another, and at short intervals, for no reason but temper, falling to butchery, like Cain."[11]

Adams was certain at the century's turn that the present was little better than what had gone before. Indeed, as the years passed he grew increasingly skeptical about the doctrine of progress, that central feature of post-Renaissance thought. Adams's idea of progress was inextricably bound up in theories of biological and social evolution. His earliest doubts about evolution probably had their origins in Louis Agassiz's lectures at Harvard where the celebrated naturalist had repeatedly denounced the theory of evolution. Later, as a brash and ambitious young man, he had reviewed the tenth edition of Sir Charles Lyell's *Principles of Geology*. In that edition Lyell wholeheartedly had embraced evolution and, according to Adams, had maintained that the earth's crust and life forms evolved in an unbroken chain, in response to uniform conditions. The dubious reviewer offered several pieces of contradictory evidence. Some species, for example, had changed almost beyond recognition over a relatively short period, while others had remained essentially the same for millions of years.

Adams was similarly suspicious about social evolution. The apparent increases in crime and insanity as well as a rise in international tensions seemed to refute the claims of social Darwinism. The singular lack of progress in American politics also posed difficulties. Most disconcerting was the poor quality of leaders during the generation and a half following the Civil War. "That, two thousand years after Alexander the Great and Julius Caesar," Adams quipped in *The Education*, "a man like [Ulysses S.] Grant should be called . . . the highest product of the most advanced evolution, made evolution ludicrous . . . The progress of evolution from President Washington to President Grant, was alone evidence enough to upset Darwin."[12]

In his attempts to cast doubt on the theory of social evolution Adams once again turned to scientific analogy, writing a second pamphlet for the historical community entitled "A Letter to American Teachers of History." Here his principal weapon was Lord Kelvin's second law of thermodynamics, also known as the law of entropy. The law held that any release of energy resulted in its degradation from higher to lower levels. Through a series of tortuous arguments and comparisons, Adams tried to demonstrate that both biological and social energies, neither of which he defined adequately, were bound by the second law. Social as well as biological evolution were therefore illusory, evolution having taken place only through the degradation of a fixed amount of energy. Eventually the process of degradation would overtake the evolutionary sequence and at this juncture stagnation or

perhaps devolution would ensue. Available evidence already suggested to Adams that humanity had reached its evolutionary limits. Man might boast about his reason, but he could not begin to compete with many animals in speed or sense perception. Citing Nietzsche as an authority, Adams declared that the human species had sacrificed its instinctual will to modern intellect. All too frequently mind paralyzed imagination and the will to act.

Since the second law was universal as well as irreversible, there was little hope that Western society might escape its doom. Such determinism was typical of Adams in his later years, a determinism which made it impossible for him to be a true reactionary. Medievalists like John Ruskin and Charles Eliot Norton might try to rekindle the spirit of the Middle Ages; Adams had no time for these schemes. However much he might admire the high Middle Ages, he believed that the dynamics of history denied any genuine escape into the past.

Although Adams went to great pain to justify and explain his pessimistic determinism, his doubts about progress arose largely from his understanding of human nature. Human beings simply were incapable of constant, straight-line progress. Men might be moral, intelligent, and altruistic, but they were also ignorant, selfish, and fallible. History was actually an eternal recurrence of mankind's thwarted efforts to overcome some ancient taint, what Jews and Christians had known for thousands of years as original sin. There were times, of course, when through dint of much sacrifice and hard work, men's better natures overcame the forces of evil, but such victories were never permanent. Adams could not cast off his family's Puritan past, albeit in secular guise.

Adams's pessimism was not, therefore, solely in reaction to nineteenth-century positivism. He was not another William James whose early acceptance of iron-clad natural law led him into the thickets of despair. Rather Adams remained an idealist, reminiscent of Josiah Royce's pessimist who could despond only because he believed in the existence of ideals. Yet so long as he clung to a ragged idealism he could hope against hope that collapse might not come. In the last paragraph of *The Education* he even tried to envision a better time and imagined that he and his comrades Clarence King and John Hay might return to earth for their centenaries in 1938. "Perhaps," he wrote, "they would find a world that sensitive and timid natures could regard without a shudder."[13] But most of him doubted that this ever would come to pass.

Whatever rays of optimism remained, Adams was sure that he was witnessing the end of the modern age. By 1900 he believed that both Europe and America resembled the Roman Empire of the third and fourth centuries, and he liked to imagine himself one of the early Church Fathers, speculating amidst the ruins of a decrepit world. Unfortunately he could not share their

vision of a Christian future. To his brother Brooks he wrote, "Exactly and literally, I find myself in the very skin of St. Jerome, but without Scriptures to vulgarize."[14]

One need not assent to Adams's most pessimistic predictions or to the particular forms in which he presented them in order to appreciate his insights into the twentieth century. Belief in automatic, straight-line progress was naive at best and was almost impossible to sustain in the wake of two world wars and the Nazi holocaust. The decline of Great Britain during the first half of the century and the concomitant rise of the United States, coupled with its own subsequent vulnerability to economic decline and nuclear destruction, have further undermined the buoyant optimism of the nineteenth century. The accelerating rate of social and technological change in recent decades and the widespread rejection of moral and intellectual absolutes have been particularly unsettling for the generations which have matured since the end of World War II. Whatever one's attitudes towards Adams himself, his speculations on the modern west should afford much ground for reaction and reflection.

Notes

[1] *Letters of Henry Adams, 1892–1918*, edited by Worthington Chauncey Ford (Boston: Houghton Mifflin Company), 1938, p. 111.

[2] Adams made much use of such evidence in the "Letter to American Teachers of History." See *The Degradation of the Democratic Dogma*, pp. 186–189.

[3] *Letters of Henry Adams, 1858–1891*, edited by Worthington Chauncey Ford (Boston: Houghton Mifflin Company), 1930, p. 534.

[4] *Letters, 1892–1918*, p. 122.

[5] *Henry Adams and his Friends*, edited by Harold Dean Cater (Boston: Houghton Mifflin Company), 1947, p. 474.

[6] *Letters, 1892–1918*, p. 111.

[7] *Ibid.*, p. 227.

[8] *Ibid.*, p. 72.

[9] *Ibid.*, pp. 55–56.

[10] *The Education of Henry Adams*, edited by Ernest Samuels (Boston: Houghton Mifflin Company), 1973, p. 458.

[11] *Ibid.*, p. 352.

[12] *Ibid.*, p. 266.

[13] *Ibid.*, p. 505.

[14] *Letters, 1892–1918*, p. 551.

Magic's Relation to the Intellectual History of Western Civilization

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Using terminology devised for cultural anthropology, magical concepts may be seen as a form of knowledge which has influenced human activity throughout history. As defined by Sir James Frazer in *The Golden Bough*, magic can contribute to the development of intellectual history in Western society as well as the study of pre-historic societies. Frazer's descriptions of magic, science and religion permits intellectual historians to examine a wide variety of popular attitudes toward the world which are not adequately encompassed by the precepts of religious or scientific thought. Thus, the mental constructs of the mass of humanity may be better understood. The present essay is designed to provoke consideration of magical precepts as a valuable part of intellectual history which may even be applied to contemporary interest in mystical cults and parapsychology.

Although later studies qualify some of Frazer's conclusions, his definitions of religion, science and magic are an excellent starting point to examine magic as one form of human knowledge. These definitions may, of course, be disputed by philosophers of theology and science, but Frazer's purpose and ours is to obtain comparative descriptions of these areas of human concern, so that man's various forms of response to his world may be emphasized.

To many students, one surprising aspect of Frazer's definitions is that magical knowledge is akin to science, not to religion.[1] Magic, says Frazer, was mankind's earliest effort to observe physical nature in order to find some means for controlling his life and the world and gaining greater security. Thus, ancient man used magic rituals to command nature. Primitive mankind believed that by observing nature he could find the means to control thunder, rain, the sun and dreams. They looked for a cause-effect relationship even though they did not use scientific reason in reaching their conclusions.[2]

Magic and science have close similarities but to Frazer magic was a "bastard" science. Both the magician and scientists accepted a faith in the

"order and uniformity of nature." They both sought cause and effect and wished to formulate techniques to control nature.

Nevertheless, a magician is not a scientist. The magician makes wrong associations about the material world. He also tries to explain the unseen as well as the observable world. Finally, the magician cherishes tradition as valid whether it is correct or not as a means to explain nature.

Frazer explains three aspects of magic which science does not accept. The magician's basic idea was that all natural elements derive from *one* substance. This *unitary* concept leads the magician to two false ideas: the magical laws of similarity and contagion. The Law of Similarity is that like equals like; that is, an object resembling a person influences that person. A clay image of a person is the person. The Law of Contagion believes that after two objects are in contact, their connections are eternal. Thus, a person's hair and fingernails influence the person even after they are cut off. For Frazer, these false "laws" result from wrong associations which may seem valid to common sense but are not scientifically rational.[3]

In his introduction to *The Golden Bough*, Frazer gives even greater attention to demonstrating that magic and religion are radically different, just as humanistic science differs greatly from most religion. Because magic and religion both deal with the unseen, they appear to be similar. In more substantive ways, however, the magical worldview varies greatly with Frazer's definition of religion.

Like science, and unlike religion, magic places human control at the center of man's knowledge. In contrast, religious beliefs claim that "powers superior to man . . . direct and control the course of nature and human life." The religious believer must propitiate the god(s) to act in his behalf. Because the religious diety is above cause and effect, God can bring about miracles if he wishes. Miracles, of course, upset the orderly world of magic and science.[4]

Thus defined, religion clearly differs most fundamentally with both science and magic. The priest humbly prostrates himself before the divinity, acting as an intercessor between God and man. In contrast, the magician is arrogantly self-sufficient, claiming knowledge of nature which enables him to command nature and unseen natural forces. As a result, the priest and magician function at extremes. The priest sees the magician not only as pagan but as a source of evil which rejects God's sovereignty over the world. The magician sees the priest as weak and ineffectual in submitting to an unreal spirit. Religion denigrates man before god; magic, like science, sees man as the measure of the world, capable of directing the natural forces once he has gained knowledge about those forces. Therefore, magic and religion are at opposite poles in their concepts of knowledge; magic and science stand closer together.

In addition to defining magic, science and religion, Frazer's *Golden*

Bough provides historians with broad generalizations for envisioning an overall approach to the study of magic. Frazer believes man's attitude toward knowledge about himself and his universe has gone through three historic stages: an Age of Magic, an Age of Religion and an Age of Science. Displaying the fondness which many nineteenth-century scholars had for progressive categorization of human epochs, Frazer contended that ancient man followed primitive modes of thought in pursuing magic. Next, magic's opposite—religion—became predominant during the medieval period, following the fall of Roman Civilization. Finally, during the Renaissance, mankind's highest form of knowledge, science, emerged and gradually grew to dominance by the nineteenth century.[5]

Frazer's categorization of epochs are useful starting points for considering magic as part of Western Civilization's intellectual history, provided two points are understood. First, in each "age" identified by Frazer, one form of human knowledge *predominates* but does not exclude the existence of the other two forms as less prominent modes of thought. Secondly, we can add a post-Frazer category: the twentieth century after Albert Einstein's concepts of relativity inaugurated a new perspective on scientific truth and, consequently, on the concept of magic's relation to science. Keeping these two points in mind, a brief summary of magic's relation to Frazer's three ages of thought and the post-Frazer era will indicate how magic can be considered a vital part of the intellectual history of Western Society.

A. Ancient World of Magic, ca. 7000 B.C. to 476 A.D.

In the Ancient World magic was mankind's predominant cosmic view. As Frazer demonstrated in *The Golden Bough*, magical worldviews evolved in prehistoric times and continued into early Western Civilization. During this Ancient Era, religious views also originated and gained popularity in the Middle East, Greece, and Rome. Thus, magical and religious practices often existed side by side because most ancient peoples did not discern the different concepts implicit in the two worldviews. Thus, an Athenian would worship Athena but also participate in the Eleusian mystery rituals and consult the Delphic oracle. Or in Ancient Egypt, magical funerary rituals mixed with the religious myths of Isis and Osiris. In effect, ancient peoples covered all bets, using magic ritualistic powers as well as religious prayers.

Bronislaw Malinowski's studies of the Melanesians clearly show how ancient peoples used both magic and science. In agricultural cultivation, the natives knew the classes of soil, how to plant and grow plants and the importance of hard and accurate work. They had knowledge of weather and seasons, plants and pests, soil and tuberous growth which derived from observation and was passed to others as knowledge of cause-effect relations in nature.[6]

Traditionally, most magic rituals traced their beginnings to Ancient Egypt or Mesopotamia. For example, Egyptian mortuary magic as described in the *Book of the Dead*, displayed the two basic attributes of ancient magic. One is contagious magic, whereby any object in contact with a person forever retains the influence of that contact. Thus, a chair used by the pharoah forever possesses attributes which associates with that ruler. The second is the law of similarity by which a word or symbol resembling the object can directly influence the object. Pyramid wall reliefs and paintings were replete with symbols of the physical elements of the pharoah's lifetime; a function of homeopathic magical beliefs.[7]

Contagion and similarity in magic are present in other ancient rituals: Babylonian divination, Chaldean astrology, Athenian Eleusian rituals, Roman superstitions. In the Athenian Golden Age, the Delphic Oracle and the Eleusian or Dionysian rituals were overwhelmingly more popular than Plato or Aristotle. Please note, they were "more popular" not "more correct" or "better academicians" than the elite five percent who attended the academy of Athens.[8]

Throughout the Ancient Era, magic rituals and religious worship generally tolerated each other. Consequently, while the magician and priest understood the differences in their practices, the people permitted the distinction between magic and religion to become blurred and inconsequential. Magical rituals gave names to the cosmic forces so that they could be called on and controlled during the rituals. To the uninitiated and uneducated, names such as Mazda, Astaroth, or Asmodeus, appeared to be the names of gods, a popular misunderstanding which furthered the differences between the natural forces and supreme beings, but which the well-trained magician understood. By the time of the *Pax Romana*, magic and religion were closely intertwined and practiced indiscriminately.

The confusion surrounding the essential differences between magic and religion did not continue into the Middle Ages. As the Christian Church and religion gained dominance in Western Civilization, one of its greatest struggles was to destroy the forces and precepts of magic in order to gain a monopoly of knowledge for religion.

B. Age of Religion and Magic's Status, ca. 476 A.D. to 1600 A.D.

By 476 A.D., the year ascribed to the "fall" of Rome, the Roman Catholic Church grew predominant in Western Civilization and the Age of Religion arrived. The early Church fathers realized that magical concepts were their primary enemy. A cosmic belief which did not recognize the power of God could be only one thing: EVIL. For the Church, magic (evil) could not be tolerated. All practitioners of magic would be excommunicated and, if they persisted in their views, executed by civil authorities.

The church's assumptions about magic not only affected all later thought about magic but created new religious cultists based on the belief that worshipping the devil might be as profitable as worshipping God. Satanists' worship of the devil was actually a form of religion, not of magic. Nevertheless, the church distorted the worldview of magic by turning it into devil worship.[9] This tactic is clarified by Frazer's definitions, as a tactic to destroy magic by making it synonymous with evil. The church used similar tactics against sixteenth- and seventeenth-century scientists such as Galileo, by threatening excommunication if scientific truth were given precedence over religious truth.

Christian Church leaders recognized the substantive differences existing between the religious and the magical *Weltanschauung*. Early Church fathers such as St. Augustine personally knew adepts who practiced magic and held ideas which had to be condemned as evil, of the devil. This condemnation continued throughout the Middle Ages, reaching its zenith after 1450, when the era of intensive witchcraft persecution paralleled the decline of Church power during the Reformation Era. To some inquisitorial judges, the extensive difficulties facing the church in the sixteenth century were due to practices of witches and the power of the devil.[10]

During the Age of Religion, magicians had two choices: to avoid detection by practicing in secret or to reconcile their beliefs by accepting God's power. In the first case, magic practices became an underground activity, making the extent of their existence difficult for historians to determine. Witchcraft, white and black magic, alchemy, astrology and divination were often attacked by church councils, papal spokesmen and parish priests. To survive, magical practices became secret and unwritten. As a result, modern scholars have a variety of opinions but insubstantial facts about the existence of such phenomena as witchcraft during the Middle Ages.[11]

During the same time, however, some beliefs formerly based on magic accepted orthodox Christian theology, and in substance, became religious, not magical. Most notably, astrology and various forms of divination such as palmistry (chiromancy), found biblical support. For instance, the famous Star of Bethlehem gave astrology an inside track on religious acceptance provided the astrologer recognized that heavenly bodies moved in response to God's command. Whenever prior magical views gained such church acceptance, the practices could be openly continued without threat from the Inquisition or local priests. Actually, of course, astrologers and others who accepted God became part of religious thought. It was no longer magic.

During the Age of Religion, churchmen correlated as many superstitions as possible with God's work. Christian leaders recognized the influence of superstitious omens, herbs and natural elements of magic, and used them whenever possible. Thus, after St. Columba expelled evil spirits from a Scottish fountain, he bathed in and blessed it so that people could continue to

use it to be healed. In similar fashion, demons, spirits, fairies as well as astrology, superstitious calendar days, and various types of divination were adapted to God's providence, thereby becoming religious in character. Later, Christian theologians of the Reformation Era often claimed that superstitious practices had gained so much influence that it ruined true Christian faith. Yet, the reformers generally accepted the early church's belief in magic as a tool of the devil.[12]

Before the Reformation Era ended, however, new intellectual attitudes were born which challenged both magic and religion. Modern scientific ideas appeared, committing themselves to a new rational worldview which had once been expressed by a few people in ancient times but which conflicted with both religious and magical attitudes about human knowledge.

C. Magic in a Scientific Age, ca. 1600 A.D. to 1900 A.D.

The origins of modern scientific methods in the sixteenth and seventeenth centuries is well known to students of Western intellectual history. Modern scientific methods based knowledge on empirically verifiable physical phenomena as it functioned in a mechanistically ordered world. With the assistance of newly devised tools to measure, weigh, time, observe and mathematically calculate, the scientist proposed to use human reason to discover and enunciate natural laws of the world. Moreover, as Francis Bacon described in the *New Atlantis*, scientific knowledge would be used to make life more pleasant and secure. The principle key unlocking these secrets of the universe would be man's use of his reason; reason based of course on data which could be empirically verified.[13]

To be sure, even scientists sometimes found it difficult to strictly practice scientific precepts, especially in the seventeenth and eighteenth centuries. Isaac Newton, the most brilliant scientist of the late seventeenth century, often dabbled in astrology and alchemy. As Lynn Thorndike explains, the evolution from magic to experimental science was gradual and lengthy. Magical practices such as astrology and alchemy contained much valid data together with its errors. And, for the genuinely curious mind, limiting one's study to observed data when human experience encompassed much more, was difficult when not impossible.[14]

Recent studies of eighteenth-century thought indicate that magical concepts were as popular (or more so) than scientific ideas. Not only astrology and alchemy but new types of magic appeared in the Age of Reason. Emanuel Swedenborg turned from his studies in science to proclaim his mystical experiences of spiritualism in Northern Europe. In Paris, Franz Anton Mesmer captured sophisticated salon audiences for sessions in animal magnetism, challenging Voltaire for audience appeal.[15]

Both spiritualists and disciples of mesmerism gained audiences in Europe and America during the eighteenth and nineteenth centuries. Spiritualists communicated with dead ancestors to diagnose disease and predict the future. Mesmerism evolved into hypnosis, a trance-like phenomenon of the mind observed and practiced by the Marquis de Puysegur who studied with Mesmer but detected hypnotic trances as one outcome of his performances. Thus, even as Frazer defined magic as a primitive practice which supposedly was obsolete in Western Civilization, many non-scientists tried to find solutions for human experiences which scientific methods could not explain.[16]

Nevertheless, from 1600 to 1900, nourished by technological innovations resulting from scientific discoveries, science gained dominance as the proper form of human knowledge. Technology translated pure scientific theory into steam engines, industrial machinery, steamboats, railroads, better guns, the telephone and the electric light bulb; science gained dominance because of its potential for changing the physical world into an easier, more pleasant world for people in Western Europe and America. As Frazer's definitions indicated in 1890, for the intellectual community as well as many others, science was man's highest form of knowledge.

In the Age of Science, magical concepts could continue to be a lesser, if not primitive form of knowledge, or they could seek to be accepted as scientific principles. At the time Frazer published *The Golden Bough* in 1890, science appeared so exact that magic would disappear as a means of human knowledge. Within twelve years, however, significant changes in science provided a new opportunity for magic to again emerge as an additional source of knowledge about mankind and his relation to the universe.

Science and Magic in the Twentieth Century

Both science and magic have been influenced by the principles of relativity and indeterminacy developed between 1900 and 1940. Albert Einstein's theory of relativity led a procession of other new scientific insights which postulated a more complex physical nature than had been envisioned by Francis Bacon and his contemporaries. Proof for such concepts as the quantum theory and subatomic particles were added to Einstein's indication that space-time dimensions must be recognized. Together, these discoveries established the foundation of an infinite universe which should be understood in terms of statistical probability.

Scientific appreciation of probability theory and the application of indeterminacy to certain areas, generated a paradoxical expansion and narrowing of the scientific methods claim to knowledge. An expansion of knowledge because the theories of Einstein and others resolved certain limitations which nineteenth-century scientists had reached; narrowing, because the

absolute certainty of knowledge once lauded by scientists and by Sir James Frazer's definitions, was no longer possible to attain.[17] As Arthur Koestler has noted, if high energy physics accepts quarks, neutrionos and anti-time particles which cannot be seen but do exist, the division between science and the study of other unseen phenomena of human experience becomes blurred or ended.[18]

Twentieth-century scientific findings have seriously qualified Frazer's restrictive definitions of science and magic, making possible the investigation of certain types of magical questions which scientists heretofore refused to study, or studied at the risk of ostracism by their colleagues. The search for methods to investigate unseen forces which common human experience includes and the acceptance of probability theory which recognizes that nature is not perfectly predictable, may bridge the gap between magic and science to the benefit of both forms of knowledge.

The link between magic as defined by Frazer and twentieth-century probability theory is parapsychology, an area of study evolved from nineteenth-century spiritualism and hypnosis. Such nineteenth-century successors of Swedenborg and de Puysegur as Kate Fox, David Hume and Andrew Jackson Davis used trance-like methods and spirit communication to diagnose disease and perform unusual feats of physical or mental control as well as to entertain audiences. Investigators of spiritualist methods, including a group of Harvard scientists and renowned British physicist Sir William Crooks, could not find evidence of fraud to negate the spiritualist trances and activity. They could not disprove spiritualism; nor could they prove it.[19]

Because most scientists refused to commit themselves to explaining these events, a group of people in England formed the British Society for Psychic Research in 1881. Together with a similar American group organized in 1885, the members sought to find a scientific method to verify the spiritual trances of a medium. Since spiritualism relied on proving life after death in a spirit world, the techniques of research were difficult or impossible to devise.[20]

By the 1930's, investigators such as J. B. Rhine decided to change the questions asked in psychic research. Life after death questions were ignored in favor of examining the medium's sensitive ability to read the minds of others by mental telepathy. By trying to experiment with the mind of the medium, Rhine took psychic experiments from the seance room to the laboratory. He used statistical calculations to test a medium's ability and categorized psychic study into such divisions as extrasensory perception (ESP) or psychokinesis (PK). Hypnosis became a distinct and separate topic in Rhine's definitions.

Between 1934 and 1970, Rhine and his colleagues at Duke University's Parapsychological Laboratory published extensive data claiming the valid-

ity of ESP above chance statistically. Frequently, his findings were disputed and he had to further refine his methods. By the early 1970's, psychic studies by university-trained personnel took place on such subjects as auras, faith-healing, Kirilian photography, dream interpretation, biofeedback and other practices related to a thorough investigation of a human being's mental capacity.[21]

The purpose of the present essay is not to prove or disprove the validity of parapsychology. It is to indicate that parapsychology's development illustrates a close connection between magical concepts and modern science's use of probability theory to verify its data.[22]

By definition, magic is not science. The question is to consider whether or not some parts of magical ideas provide valid explanations of human experiences not dealt with by empirical science. Heretofore, contemporary scholarship has generally shunned magic as not worthy of consideration. By so doing, scholars close their minds to a vast array of phenomena which humans have experienced since the first person had a premonition which later became fact. Intellectual historians who agree that "nothing human is foreign to me," may find it stimulating to examine their research from the perspective of Frazer's definitions and the probability theories of the twentieth century.

Notes

[1] James George Frazer, *The Golden Bough* (New York: Abridged Edition, 1958). In the *Spring, 1961* issue of *Daedalus*, two writers offered divergent views on Frazer's study: Edmund R. Leach, "Golden Bough or Gilded Twig?" and Herbert Weisinger, "The Branch that Grew Full Straight," *Daedalus*, 90 (1961), 371–399.

[2] Frazer, 56–57. See also: Bronislaw Malinowski, *Magic, Science and Religion* (Garden City, New York, 1955), 27–29.

[3] Frazer, 12–15, 43–45.

[4] *Ibid.*, 56–69. Like Frazer, I have not emphasized the relation between science and religion because magic's relation to each of these is the pertinent issue.

[5] *Ibid.*, 63–65.

[6] Malinowski, 29–32.

[7] James H. Breasted, *Development of Religion and Thought in Ancient Egypt* (New York: 1912), 84–94, 281–290.

[8] Jack Lindsay, *Origins of Astrology*, (London: 1971) 1–46, 355–372; Lindsay, *The Origins of Alchemy in Greco-Roman Egypt* (New York: 1970) 1–24 and 382–392 especially. Peter Hoyle, *Delphi* (London: 1967) 24–39, 67–82; Samuel Dill, *Roman Society from Nero to Marcus Aurelius* (London: 1905) 443–463; James B. Bury et al. (eds.) *The Cambridge Ancient History* (Cambridge: 1939) Vol. IV, 522–538. Lynn Thorndike's magisterial study seems to have been inspired by Frazer. Thorndike's "Introduction" begins with a quote from Frazer who cited Hegel: "Magic has existed among all peoples at every period." The "Introduction" provides a summary of studies of the Ancient era in magic. Thorndike, *History of Magic and Experimental Science*, 8 vols. (Now York: 1923–1958), I, 1–35.

[9] C. W. Previte-Orton, et al. (eds.) *The Cambridge Medieval History*, (Cambridge: 1939) Vol. VIII, 660–687; Andrew M. Greeley, "The Devil You Say," *New York Times Magazine*,

February 4, 1973, 15–28. While Satanist cults claim to be magical, they are religious by Frazer's definitions because they "worship" the devil in return for his favors.

[10] Henry C. Lea, *Materials Toward a History of Witchcraft* (New York: 1957), 3 volumes, and *History of the Inquisition of the Middle Ages* (New York: 1956).

[11] W. R. Jones, "Abracadabra—Sorcery and Witchcraft in European History," *History Teacher*, V (November, 1971) 26–36. Alan D. S. McFarlane, *Witchcraft in Tudor and Stuart England* (New York: 1970). Jeffrey B. Russell, *Witchcraft in the Middle Ages* (Ithaca: 1972), *passim*. More has been written about witchcraft from 1450 to 1700 than any other magical topic. McFarlane has an appendix which is a valuable guide to some of the literature.

[12] Previte-Orton, *op. cit.*, 669–671 and 677–678; Thorndike, Vols. II, III, IV, *passim*.

[13] Many studies describe this period. My favorite is Herbert Butterfield, *The Origins of Modern Science* (London: 1950).

[14] Thorndike, on Newton is VIII, 388–604. See also: Keith Thomas, *Religion and the Decline of Magic* (London: 1971), *passim*. But especially, 631–668.

[15] Robert Darnton, *Mesmerism and the End of the Enlightenment in France* (Cambridge: 1968), 3–45; also see: Herbert Leventhal, *In the Shadow of the Enlightenment, Occultism and Renaissance Science in Eighteenth Century America* (New York: 1976).

[16] Slater Brown, *The Heyday of Spiritualism*, (New York: 1970), 1–11.

[17] From the effect of relativity on twentieth-century culture and science consult: L. Pearce Williams (Ed.), *Relativity Theory: Its Origins and Its Impact on Modern Thought* (New York: 1968), especially the essays on pages 115–147; George Gamow, *Thirty Years That Shook Physics* (New York, 1966). George Schwartz and Philip Bishop (Eds.), *Moment of Discovery*, Vol. II *The Development of Modern Science* (New York: 1958) reprint essays by Max Planck, James Jeans and J. Robert Oppenheimer, pgs. 951–988. Cecil J. Schneer, *The Evolution of Physical Science* (Grove Press: Evergreen Edition, 1960) has an interesting chapter on "Science, Magic and Religion," 1–13; as well as an account of probability and Einstein's pursuit of the open field theory in order to disprove Heisenberg's probability concepts, pgs. 335–378.

[18] Arthur Koestler, *The Roots of Coincidence* (New York: Vintage Edition, 1973), 50–81.

[19] Slater, 73–225; on Crowley see Colin Wilson, *The Occult*, (New York: 1971), 349–375. R. G. Medhurst (Ed.), *Crooks and the Spirit World* (New York: 1972), reprints article from the *Quarterly Journal of Science* of 1874.

[20] Nathan Fodor, *Encyclopedia of Psychic Science* (no city: 1966), foreword by Leslie Shephard, vi to xx.

[21] Louisa E. Rhine, "Parapsychology, Then and Now," in J. B. Rhine and Robert Brier (Eds.) *Parapsychology Today* (New York: 1968), 241–266; Arthur Koestler, *The Roots of Coincidence* (New York: Vintage Edition, 1973), 11–49; Paul Chance, "Parapsychology Is an Idea Whose Time Has Come," *Psychology Today*, 7 (October, 1973), 105 ff.

[22] At present, parapsychology facts do follow some strict canons of science even within the context of probability. Its most difficult problem is replication, because some persons have apparently developed a sensitivity to mental abilities while others have not. Fuller discussion of these problems can be found in Koestler, *Roots of Coincidence*, and Rhine, *Parapsychology Today*. A fascinating study which is difficult to classify but is worth reading is Colin Wilson, *The Occult* (New York: Vintage Books, 1971).

The Return of the Burden of History

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Cries for contemporary relevance have for some time decreased enrollments in history classes, especially in introductory surveys. To those who demand it, "relevance," now converted to a cliche, is antithetical to the study of the past. When students not long ago demanded relevance, they meant moral conscience in scholarship and teaching that related immediately to social and political crises. When students (and faculty) insist upon relevance today, they often imply a technical pragmatism, a preference for subject matter that will aid in material, daily pursuits—give an edge to the graduate competing in the real, that is, the economic world, that will make life a bit easier. Historians as well as other academicians, particularly in the humanities, are justifiably distressed by this trend within a trend, the advance of more banal motivations for the denial of history. Yet even the morally based outcries were specious.

In the late nineteenth century, and more intensely after World War I, moralistic and philosophical assaults on history and historians were elegantly crafted by intellectuals (primarily, but not exclusively novelists). Joseph K in *The Trial*, or Mersault in *The Stranger* are two representatives of modern Angst, a free-floating anxiety which had its roots somehow confused and entangled with historical consciousness, men in flight from the "nightmare of history." No one knows much about their pasts. Tragically apotheosizing the modern age, these protagonists were in sharp contrast to historians who had been pilloried as "crabs," moving backward, buried in the dust of libraries and antiquarian minutiae, enamored of death and seen as the antipode of life and art. Some of these works of art were pleas for moral revolution against historically derived and entrenched bourgeois beliefs which in turn were constructed upon educational institutions defended by historians. Unlike later calls for relevance, literary works like these derived from profound feelings of anomie due to psychic and social tension. They were not necessarily up in arms for political engagement, nor were they reflections of mundane pragmatism. They did share with the protests of the 1960's an awareness of a seeming lack of concern for the living in the work of historians.

Yet there was a clear understanding that although historians could be marked for their deadening objectivity, the loss of historical sense was a disturbing phenomenon. Arthur Koestler called history-poor people "Nean-

derthalers''; an apt name conjuring pre-historic or historyless being.[1] He applied the derogatory epithet to Gletkin, the brutal, calculating, computer-like young man in *Darkness at Noon* who espoused and enacted Stalinist principles and practices in the 1930's; Koestler might have drawn him as Eichmann or countless other petty and not-so-petty bureaucrats without historical consciousness. Similarly, Ortega y Gassett lamented the rise to power of ''mass man'' whose outstanding characteristic, Ortega said, was not a proletarian status, but a lack of history.[2] Koestler and Ortega were part of the tendency in literature and philosophy that portrayed aimless, crass, disconnected, utterly pragmatic and amoral human beings as *temporally* shallow.

''Historical consciousness'' signifies an awareness of continuity, a recognition of the ways contemporary problems evolved from previous situations. And while it can buttress conservative attitudes, it can also demonstrate that human beings and their cultures are, as Claude Levi-Strauss commented, ''survivors of survivors,'' awakening acknowledgment of fundamental sameness from generation to generation as well as of vital differences.[3] For example, the protagonist Rubashov in *Darkness at Noon* acutely experiences this consciousness as he sympathetically recalls the plight not only of his fellow revolutionaries, but of their enemies. His historical consciousness forces him to empathize with others, and generates his radicalism because it goes to the root of his social conscience. Gletkin, who seems to have no history, does not care to know of earlier dilemmas, of the roots of the present revolution. Preoccupied with present-oriented efficiency, he hurriedly and contemptuously dismisses all memories of the origins of his own world. The consequential product of this omission is a cold, ''perfect'' bureaucrat, totally enveloped in a self-contained, non-critical view of the present and future. Like history books purged from library shelves, understanding and empathy have slipped away, purged from the mind.

Students without historical consciousness—without history courses—resemble Koestler's Neanderthalers. When the television series ''Holocaust'' was aired, the majority of college-aged viewers discovered attempted genocide for the first time. Many were stunned at even this ''trivializing,'' soap-opera film.[4] Had that history been presented in detail, with particulars and methods of bureaucratic administration, with the horror of daily life in death camps, in living color, an even stronger point might have been made. Perhaps the examination of this particular period in history might have revealed the horrifying potential for ''normalcy'' of life in the midst of mass murder as well as the technocratic efficiency reminiscent of modern bureaucratic tactics and strategies. It may even have alerted some people to the continuity of methodology and values in the modern state—an institution which outlives the perpetrators of the holocaust; and to the danger of uncritical immersion in modern society.

The perpetrators "lost their moral ballast." Without critically evaluating the past, people often became, to men not unlike Gletkin, problems to be solved, or objects to be used for the fulfillment of a specific goal—personal or public. If behavior is a guide to values, then those who choose to forget the past are released from a ballast, and act expediently at anyone's expense—perhaps from fear, insecurity, desire for success or blind ambition. People they encounter are facades, surfaces without histories. Behavior is then colder, less personal, less involved. Finally, the past appears to have no relevance whatsoever because it seems to teach nothing about the present. Yet the enormity of the holocaust bureaucracy and its invented phraseology teach a great deal about the present.[5] The ferreting out of historical continuity may proceed to a critical evaluation of the present and is, if not strictly functional, then instructive and directive.

Nevertheless, the biting caricatures of historians, the embittered polemics against their avoidance of life itself, painfully correspond to the professional historian and his attitudes—at least as revealed in many classrooms. Those judgments strike at the heart of the issue of relevance. Acknowledging the value and truth of such criticisms, historian Hayden White postulated solutions to the problems of the "burden of history."[6] Whatever the burden may have been, White, echoing Nietzsche,[7] advocated throwing it off, but not before confronting it. Conscious confrontation of the past—as an individual attempts in psychoanalysis—might enable assimilation, and resolution, or at least recognition, of its vital connection with the present. What is true for individuals can and should apply to cultures.

But what history courses do this explicitly? Where does this kind of emphasis take place in the study of ancient Egypt or Greece, Rome or medieval Europe? To address serious questions of pragmatism or relevance, historians and others in the humanities might consider introductory, interdisciplinary programs with the explicit goals of confronting and demystifying the past—of being relevant in the original and responsible sense of the word, to "raise again" and revive the earliest and the latest histories in order to examine them so closely that they illuminate each other. The expressed and most important purpose of such programs is to examine and reveal the palpable conjunctions between origins—earliest histories—and contemporaneity. Historians have bowed to this theory, perhaps, yet it is time the idea received more than cursory nods. The core of historical relevance is cradled in that idea; it elaborates history's hold on the present. Just as it was crucial for Freud's patients to connect present and past for "health" or at least for bearable lives reduced in suffering, so too for students and western culture today.

Here lies the source of an academic and intellectual conflict: in the main, like most of the culture, students (and faculty) are increasingly goal-directed, business-like, pragmatic people in a hurry. This presents no mean

problem—a fact teachers in the humanities painfully know. An examination of history which tries to uncover the shafts of meaning between past and present takes time because to race past or through history diminishes its importance. In rapid-paced survey courses time flies, flies so quickly that it is reduced and demeaned. The problem, then, is how to slow down a course of study and satisfy students who have no time, who cannot afford to be interested in their own or anyone else's past.

Perhaps this methodological problem can be solved with a chronological boldness. Not a fall but a leap far into the past establishes the origin of such a program: in search of what Thomas Mann called the earliest "time-coulisse,"[8] the Greeks are recent history, the Egyptians and Mesopotamians lived yesterday. However one chooses to define pre-civilization—before cities,[9] before philosophy,[10] before states,[11]—it offers an ensemble of social and psychological characteristics rich with structure and meaning and relevance. When human beings physiologically were more like us than not, they were nevertheless socially and cognitively universes apart from us.

Hypotheses about the nature of paleolithic and neolithic styles of life have been supported by archaeological discoveries, and by suppositions that such life styles are approximated by tribal societies studied by anthropologists. Dorothy Lee, in essays published in *Freedom and Culture*, wrote matter-of-factly of societies steeped in harmony and communal sharing, whose members all maintain their individuality yet integrate themselves into the group that consists of members of the family living and dead.[12] Each essay carries moral overtones and argues for careful consideration of the possibilities of integrating aspects of pre-civilization with more modern forms of life. It is a commonplace, however, that moral points seem strident today, laden with emotion and excessive, implied, homiletic criticism. To counter this potential suspicion, Lee's ethics are grounded in empirical evidence and "scientific" observations; the sort of "data" most students accept as authoritative and that frees descriptions of pre-civilized cultures from a romantic aura which conveys a mushy sense that "savages" "feel" differently than civilized people, that they are "at one with nature" in some mystical way more appropriate to a romantic poem than to an historical analysis.

Not "success" but "fullness" seems best to describe the primary value of Lee's subjects. Space itself becomes packed with physical and mental presence; crowded by living and dead relatives, parts of nature, and what may best be called (echoing Freud) "*revenants*." Time, too, is qualitatively different—more protracted, full of activity, reverie, memory, and communal engagement. Measures of time are not equivocal, qualitatively equal, but some moments are repetitions of mythical origins and therefore designated as full of significant impact and more efficacy for life and action. In this context of fullness, Lee's people are fully nurtured by their groups, secure in the closeness of tight space and nearness of archetypal kin models.

"Fullness" here means active, often hard physical existence that is more than a vague feeling. They *live*—that is, act, comport themselves—differently than civilized humans; handle material, social and psychological matters in a structured way that is informed by assumptions, goals, and motivations radically unlike civilized counterparts. Acceptance and care are unquestioned, analogous to parental love. Value resides in "being," that is, not in achievement but in existence. Nurturance of that sort appears to free them from insecurity. As Lee and other anthropologists, Meyer Fortes and Stanley Diamond, for example, have noted, there is a low incidence of deviant or criminal behavior and often little that resembles the psychic trauma of modern civilization.[13]

In the realms of social interaction of economic activity, kinship structures, demography, political forms, and technological methods, "reciprocity" and "egalitarianism" best exemplify Lee's descriptions.[14] Thus, as Ellman Service has suggested in *The Hunters*, reciprocity describes more than just pre-civilized economy, it characterizes exogamous marriage patterns, child-rearing, and social relationships in general.[15] So, too, does the idea of egalitarianism pertain to more than social status: it conveys a basic attitude toward nature, all aspects of life, food acquisition, sharing of space, and more.[16]

If reciprocity and egalitarianism epitomize the social order, what John Wilson described as a "consubstantial" world view, and what Aquinas labelled "polysemy,"—language in which words carry simultaneous, multiple meanings, rather than single or univocal meanings—are their counterparts in the cognitive realm.[17] Perhaps the central quality of consubstantialism is its "uniplanar" (to borrow from Ernst Cassirer) approach to nature and life, its refusal to hierarchize unless absolutely necessary.[18] Corresponding to social egalitarianism, such a view carries equal respect for virtually every aspect of nature: again, value is inherent in being, and the language of such cultures is consistent with this idea. Words are like Lewis Carroll's portmanteau words or James Joyce's conglomerates in *Finnegan's Wake*: packed with associative meanings, they accumulate rather than exclude; they are full words that do not reject but invite significance.

Reciprocity and accumulation, egalitarianism and openness mark pre-civilized mind and action. Mythopoetic logic—the logic inherent in myths that are prescriptive and ordering—*is* logic, as Levi-Strauss long ago demonstrated,[19] but not narrowly limited by scientific rules restricting method or speculative imagination. Such logic, like its corresponding social and symbolic systems, proves functional beyond purely material needs. When physical requirements are placated, spiritual, communal and psychological needs are too. At the core, however, appears a non-hierarchized means of life, of talk, thought, and comportment.

Historically, schematically, the pre-civilized social order is disrupted and

destroyed with the introduction of bureaucracies, hierarchies, new forms of politics and realignments of values to meet new problems.[20] Opportunities arise here to present social mores and conventions not as givens, taken for granted, but as historically derived: even the most elemental assumptions about alphabets, language, families, children, and work may now be approached from a historical perspective that emphasizes changes and choices initiated by the formation of ancient cities. The beginnings of these drastically new forms of society herald the end of other forms: they shut down traditional structures quickly—in the scope of human cultural history these comprehensive changes occur in a historical blink of an eye.[21] Each strand of human culture can be interpreted as undergoing radical alterations: large social groups supplant large kin groups; reciprocal economies, egalitarian sharing, social homogeneity *become* relegated to the nuclear family, market order, and stratification; women become slaves in the home; slavery grows in significance because it has become a profitable institution. Bureaucracy, hierarchy objectification, separation and classification all functionally complement each other.

Max Weger characterized an almost identical process he identified in Prussia as the evolution of modern bureaucracy, and saw its primary quality, for better or for worse, to be disconnection from persons.[22] And primary consequences of this development are the disappearance of women from significant participation in social life, and derogation of child-rearing, the destruction of the kin-based transference of wisdom from one generation to the next, all of which links to the loss of reciprocity and egalitarianism, polysemy, and consubstantial consciousness.[23]

It is commonplace to speak of Greece as at least one of the roots of western civilization. A single, remarkable text that encapsulates social, religious and cognitive continuities and discontinuities, serves as a doorway into Greek and then western civilization, is Aeschylus' *Oresteia*. It might be treated not only as a masterpiece of drama, but as a text that reflects fundamental social and cognitive transformations and some of the profoundest values of Athenian culture starting with the interpretation of kinship justice in *The Agamemnon*.

Aeschylus represented the continuous bloodletting, generations long, as a particularly savage lifestyle.[24] That portrait contrasts sharply with the kin group justice described by the likes of Lee and Service. On one level, then, Aeschylus can be interpreted as symbolically relating the origin of law, the displacement of a violent, nasty, individualized code of vengeful justice by written, state regulated, objective law canons. It is a development indicative of what some classicists see as the most significant statement of Greek culture, nicely purveyed by Aeschylus as complement to later thinkers: the belief in and practice of reason.[25] Athene's and Apollo's new law system is thoroughly rational, and she in fact urges the Furies in *The Eumenides*

simply to "be reasonable."[26] Thus the plays begin as historical analysis of social institutions and expand by a growing appeal to a logical, philosophical, organized, rational or bureaucratic mode of thought. All this again contrasts with mythopoetic forms of thought as described by anthropologists and historians of religion like Henri Frankfort, whose book was once titled "Before Philosophy," that is, before the Greeks.

Finally, having rhapsodized the virtues of law and reason, Aeschylus has Apollo convince Athene, the jury, and the audience of Orestes' innocence by means of astoundingly *irrational* argument that denies the role of women in birth, that excludes mothers, and, as several scholars have pointed out, is founded on the specious premise that Athene had no mother. Celebration of Apollo's victory seems all the more puzzling with the knowledge that all the characters, the playwright, and the audience were familiar with the tales of Hesiod's *Theogony*, and thus fully aware of Athene's mother, Metis.[27] Aeschylus perhaps tapped a deeply held prejudice and fear; he clearly voiced Greek civilization's delitescent misogyny, its hatred of women.

The issue of the social position and nature of women, so pointedly drawn in Aeschylus, lends itself to analysis especially well. Radically different views of women, their social activities and functions, particularly of mothers, prevail in pre-civilization. If Frederick Engels' phrase "world historical defeat of the female sex" sounds overly strident and dogmatic, hyperbolic and political, nevertheless, these drastic contrasts in perceptions of women and what roles become suitable, emphasize historical changes and offer at least glimpses of the possible social and/or psychological reasons for them.

Greek society epitomizes those changes so profoundly that almost any significant text demonstrates these themes. And in Athenian civilization, the evolution of rationality and bureaucracies conjoin with misogyny and can be examined in Plato or Aristotle whenever they discuss thought, reason, logic, and discourse. A concomitant of this revolutionary attitude and ethic is objectivity and "coldly rational" argument and analysis—once again, antithetical to kin-group forms of discourse and mythopoetic speculation. Aristotle's logic that demands an exclusion of consideration of means to achieve desired ends in *The Ethics*, Plato's zero-sum arguments over the nature of discourse, love, and thought in *The Phaedrus*, may be seen as analogical extensions of Aeschylus' denial of kin-group or mothering sensibilities.[28] Metaphorically, Aristotle's excluded middle mirrors Aeschylus' excluded mother; they are both concretely visible in the persistent exclusion of the family from importance in Athenian history—a legal, social, and political fact that affects every conceivable aspect of life. Indeed, Apollo's argument in defense of Orestes' matricide is syllogistic and serves to defeat the Furies in their own system. Since he cannot deny that the murder was committed, to absolve his client, Apollo denies that it was a blood crime. Thus, syllogistically, if all mothers are not blood relatives to

sons; and if Orestes murdered his mother; the conclusion *must* be that Orestes did not commit a blood crime. Even in the syllogism, the mother—the middle term—is excluded.

This confluence of themes, culminating in bureaucratic displacement of kinship bonds, will be blatantly echoed in contemporary twentieth-century works of social history. But these themes do not disappear from western history to lie dormant until the nineteenth and twentieth centuries. The seventeenth century provides another period for examining pivotal moments in the evolution of these particular cultural ideas. Having read Aristotle, for example, Descartes' *Discourse on Method* may be perceived as continuing the theme of logic applied not only to philosophical but also to more obviously practical problems.[29] In contrast to Lee's essays, which might suggest accumulation of possibilities, or Frankfort's work in which mythopoesis is a form of poetry and thus *accumulates* meanings, Descartes' argument that his method *exclusively* provides the perfect problem-solving apparatus is indicative of the western quest for singular answers that exclude other possibilities. Because of that, Descartes may be approached as a figure near the center of western traditions of thought and values. Hobbes seems a natural companion thinker (despite his differences with Descartes). His descriptions of the nature of primitive culture clash with anthropological material yet are consistent with Aeschylus.[30] His discussion of reason is likewise continuous with Greek philosophy and with Descartes;[31] and the *Leviathan* provides a challenging text for more careful textual analysis, thus continuing a subliminal motif regarding reading and study.

Descartes, Hobbes, and the seventeenth century call for some consideration of the history of science and mathematics. In terms established earlier in the program, these disciplines mark a decisive decline in non-hierarchized views of the world and polysemous language. Both the *Discourse* and the *Leviathan* are carefully constructed along strict hierarchical lines and a brief history of science like A.G.R. Smith, *Science and Society in the Seventeenth Century*, reveals the unequivocal demands of new languages like calculus.[32] Historical context, even biographical sketches of Newton and Bacon, clearly demonstrate the circumstances surrounding such vital transformations in how people think, talk, and finally, how they behave.[33]

Mythopoesis, the creation and continuation of mythic thought that is symbolic and determinative, and that informs life lived in the ritual security of archetypal multiple identities, becomes relegated to a "privileged position" by the seventeenth and eighteenth centuries. So, too, does polysemy, the poetic, plurivocalism of words with several simultaneous meanings. Seventeenth- or eighteenth-century poetry, art, literature or religious texts capture the fleeting moments of the past which are preserved almost as anachronisms in civilized society. Corresponding social relics, according to Service, can be observed only in the sanctity and privacy of family life.[34]

"Privileged" in this context seems to mean "unimportant," or secondary, reserved for leisure time or furtive, embarrassing participations in increasingly empty ceremonies and "irrelevant" literature. Christopher Lasch has argued that the family as a "haven," or tradition, privacy, and intimacy have been undermined by encroaching state bureaucracies and specialists of all sorts collectively called, ironically, "human services."[35] Considering western history from this exceptionally broad viewpoint, with explicit contrasts to earlier cultures that are deliberately more than passing condescensions, calls the western (if not the civilized) project into question; it extends critiques from the nineteenth and early twentieth centuries whose targets were the theories and theologies of progress. It is an extension needed to re-enliven the humanities and social sciences as well as to readjust perspectives on our own time.

At least two goals are likely to be achieved in this process: students more or less readily engage in the study of classical works, gaining at least a part of a liberal or general education that has been slipping away from undergraduates over a period of years. More important, the prospects of integrating past and present become realistic because obvious questions are raised: why did human beings abandon "fullness" for "success"? Why has western civilization been so disposed to denigrate women? Under what conditions do societies forsake values and traditions? Can Aristotelian logic be blended with mythopoetic thought, forming a sort of amphibious, alternating cognitive system that is not always on guard, defensive, rushed? Is it possible to mediate between the apparent extremes of Dorothy Lee's tribal security and western civilization's urban anxiety, or between Koestler's Neanderthalers and Nietzsche's crabs? Can language, much less other realms of life, oscillate between accumulation and exclusion?

Such a program lays the ground for a possible reconstruction of a general education curriculum; it reintroduces the idea of literacy as a function of higher education and links it to historical and cultural attitudes. Christopher Lasch has written disturbingly because accurately about the crisis of literacy in the 1970's and 80's; it is profoundly conjoined to a loss of historical consciousness and an accretion of historyless, that is, narcissistic people.[36]

This is admittedly an unorthodox history and humanities program. But it *is* history and restates a vital purpose for its study: the expansion of perspectives, if not spatially, then temporally. Broader perspectives offer the prospect of a more rational—even more humane—analysis of both present and future. Historical problems, adequately posed, can provoke students to question, to seek meanings in what is around them, to better understand how and why cultural processes unfolded in particular ways, to critically evaluate past and present—to *think*. And thoughtful, informed reflection ought to yield conclusions that history *is* relevant to even the most pragmatic of students. Its study should not be overestimated in material benefits—it has

not and will not prevent errors, folly, or worse. Neither is it pointless because it "contains everything and therefore teaches nothing."

It can only benefit human beings to know that others have grappled with the same uncertainties and fears, sought the same joys and advantages for thousands of years; to know, too, that history is not simply what E. M. Forster claimed: "a series of messes." History is more than that. Perhaps more significant, the study of the origins of particular feelings, institutions, and social patterns announces a variety of forms of community and family that seem to have avoided the debilitating effects of western civilization. Max Beloff has written that the "ultimate business" of historians is to "help [make] the world more intelligible."[37] Some aspects of history are burdensome and life-denying; other facets liberate and enliven personal development and social interaction by making the world more intelligible. If history and the teaching of it can begin to demonstrate that, then students will surely see its deep and lasting relevance because of their participation in history courses.

NOTES

[1] Arthur Koestler, *Darkness at Noon* (New York: Bantam Books, 1966).

[2] Ortega y Gassett, *The Revolt of the Masses* (New York: Norton, 1982), 36, 91ff.

[3] Jacques Mousseau, "The Father of Structuralism—A Conversation with Claude Levi-Strauss," *Psychology Today*, May, 1972, pp. 36, 37, 39, 74, 78, 80, 86, 89.

[4] Elie Wiesel, "Trivializing the Holocaust," *New York Times*, April 16, 1978, II, 1:1.

[5] George Steiner, "The Hollow Miracle" (1959), *Language and Silence: Essays on Language, Literature, and the Inhuman* (New York: Atheneum, 1967), pp. 95–109; Heinz Paechter, *Nazi-Deutsch: A Glossary of Contemporary German Usage* (New York: 1944), pp. 10–15.

[6] Hayden V. White, "The Burden of History," *History and Theory*, 5, No. 2 (1966), pp. 111–134.

[7] Friedrich Nietzsche, *The Use and Abuse of History*, trans. Adrian Collins (New York: Bobbs Merrill Co., Inc., 1949).

[8] Thomas Mann, *Joseph and His Brothers*, trans. H.T. Lowe-Porter (New York: Alfred A. Knopf, 1976), pp. 3–34.

[9] Gordon Childe, *What Happened in History* (Harmondsworth, Middlesex: Penguin, 1942), pp. 30–31.

[10] Henri Frankfort, et al., *The Intellectual Adventure of Ancient Man* (Chicago: London: The University of Chicago Press, 1946).

[11] See, for example, William T. Sanders and Barbara Price, *Mesoamerica: The Evolution of Civilization* (New York: Random House, 1968), pp. 54–57.

[12] Dorothy Lee, *Freedom and Culture* (New York: Spectrum, 1959).

[13] Meyer Fortes, "Mind," *The Institutions of Primitive Society*, ed. E. E. Evans-Pritchard (Glencoe, New York: Free Press, 1956), pp. 90–94; Stanley Diamond, "The Search for the Primitive," *The Search of the Primitive* (New Brunswick, N.J.: Transaction, Inc., 1974), pp. 116–175; Marshall Sahlins, "Notes on the Original Affluent Society," Richard B. Lee and Irven De Vore, eds., *Man the Hunter* (Chicago: Aldine Publishing Co., 1968).

[14] Lee, *Freedom and Culture*, pp. 50–52; Morton Fried, *The Evolution of Political Society* (New York: Columbia University Press, 1967), pp. 52ff.

[15] Ellman Service, *The Hunters* (Englewood Cliffs, N.J.: Prentice Hall, Inc., 1979), pp. 20–21.

[16] See S. L. Washburn and C. S. Lancaster, "The Evolution of Hunting," Lee and DeVore, eds., *Man the Hunter*; and Washburn and Ruth Moore, *Ape Into Man, A Study of Human Evolution* (Boston: Little, Brown, Inc., 1974), pp. 142–43.

[17] Marvin Bram, *The Recovery of Meaning* (unpub. dissertation, University of Rochester, 1972); John Wilson, *The Culture of Ancient Egypt* (Chicago: University of Chicago Press, 1956), pp. 46–47, 75, 86 and Wilson in Frankfort, *The Intellectual Adventure of Ancient Man*, pp. 31–122. For an interesting parallel use of "consubstantial" see Saint Bonaventure, *The Mind's Road to God*, trans. George Boas (Indianapolis, Bobbs Merrill, 1953).

[18] Bram, *The Recovery of Meaning*; Siegfried Giedion, *The Eternal Present: The Beginnings of Art* (New York: Pantheon, 1962), vol. 1, pp. 516–17, 534.

[19] Claude Levi-Strauss, *The Savage Mind* (Chicago: University of Chicago Press, 1966), pp. 1–33.

[20] Service, *Origins of the State and Civilization* (New York: W.W. Norton, Inc., 1975), pp. 222ff; Fried, *Evolution of Political Society*, pp. 186, 239.

[21] See Karl A. Wittfogel, *Oriental Despotism: A Comparative Study of Total Power* (New York: Vintage Books, 1962), esp. chapters 3–7; Gordon Childe, *What Happened in History* (Harmondsworth, Middlesex, England: Penguin Books, 1972), pp. 97–120; See also Samuel Noah Kramer, *The Sumerians* (Chicago: University of Chicago Press, 1963); and Jacobsen in Frankfort, *Intellectual Adventure of Ancient Man*, pp. 125–319.

[22] Max Weber, *From Max Weber: Essays in Sociology*, trans. and ed. H. H. Gerth and C. Wright Mills (London: Kegan, Paul, Trench, Trubner & Co., Ltd., 1947), pp. 215–16.

[23] See Frederick Engels, *The Origin of the Family, Private Property and the State* (London: Lawrence and Wishart, 1972), pp. 120–21.

[24] George Thomson, *Aeschylus and Athens. A Study in the Social Origins of Drama* (New York: Haskell Houele Publishers, Ltd., 1972), pp. 288–297; Herbert Weir Smyth, *Aeschylean Tragedy* (New York: Biblo and Tannen, 1969), pp. 205–234; Gilbert Murray, *Aeschylus: The Creator of Tragedy* (London: Oxford University Press, 1940), p. 196.

[25] Richard Kuhns, *The House, the City, and the Judge: The Growth of Moral Awareness in the "Oresteia"* (New York and Indianapolis: Bobbs Merrill Co., Inc., 1962), p. 97; see also Bruno Snell, *The Discovery of the Mind* (New York: Harper and Row, 1960), esp. pp. 1–22, 191–245; Lewis Mumford, *The City in History* (New York: Harcourt Brace Jovanovich, 1961).

[26] Aeschylus, *Aeschylus I: Oresteia*, trans. Richard Lattimore (Chicago and London: The University of Chicago Press, 1953), p. 164.

[27] *Ibid.*, p. 158; Hesiod, *Theogony*, trans. Norman O. Brown (New York and Indianapolis: Bobbs Merrill Co., Inc., 1953), p. 78; Giedieon, *The Eternal Present*, p. 584ff; Gertrude Levy, *The Gate of Horn* (London: Faber, 1968); Helen Diner, *Mothers and Amazons. The First Feminine History of Culture* (Garden City, New York: Doubleday, 1973); Alexander Marshack, *The Roots of Civilization* (New York: McGraw Hill, 1972).

[28] As well as these works, see also Wittfogel, *op. cit.*; Philip Slater, *The Glory of Hera* (Boston: Beacon Press, 1968); Alvin W. Gouldner, *Enter Plato: Classical Greece and the Origins of Social Theory* (New York: Basic Books, 1966).

[29] Rene Descartes, *Discourse on Method and Other Writings*, trans. F.E. Sutcliffe (Harmondsworth, Middlesex, England: Penguin, 1968), esp. "Discourse 3," pp. 45–52; Sir Isaac Newton, *Opticks* (New York: Dover Publications, 1952), "Query 28," p. 370 and "Query 31," pp. 402, 405–6.

[30] Thomas Hobbes, *Leviathan* (Indianapolis: Bobbs Merrill Co., Inc., 1958), chs. 13–15 that describes man in his "natural state," esp. the famous conclusion that men's lives were "solitary, poor, nasty, brutish, and short," p. 107.

[31] Hobbes, chs. 5 and 7.

[32] A. G. R. Smith, *Science and Society in the Sixteenth and Seventeenth Centuries* (London: Harcourt Brace Jovanovich, 1972).

[33] See Theodore Roszak, *Where the Wasteland Ends* (Garden City, New York: Anchor Doubleday and Co., 1973); Frank P. Manuel, *A Portrait of Isaac Newton* (Cambridge: Harvard University Press, 1968).

[34] Service, *The Hunters*, pp. 16, 19, 25, 74–75.

[35] Christopher Lasch, *Haven in a Heartless World: The Family Besieged* (New York: Basic Books, Inc., 1977).

[36] See Neil Postman, *Teaching as a Conserving Activity* (New York: Dell, 1980); Gerry Mander, *Four Arguments for the Elimination of Television* (New York: Morrow, 1978); Christopher Lasch, *The Culture of Narcissism: American Life in an Age of Diminishing Expectations* (New York: Wang Books, 1979), pp. 221–65.

[37] Max Beloff, "On Thinking About the Past," *Encounter*, 33, 4(Oct., 1969), 43–51.

The Influence of Francis Wayland Parker's Pedagogy on the Pedagogy of John Dewey

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John Dewey founded the University of Chicago's model laboratory school in 1896. Nearly a decade later, William James enthusiastically praised the accomplishments within Dewey's model elementary school as well as his work in philosophy and psychology, manifested in the publication of his book *Studies in Logical Theory* (1903):

> Chicago University has . . . given birth to the fruit of its ten years of gestation under John Dewey. The result is wonderful—a real school, and real thought. Important thought, too! Did you ever hear of such a city or such a University? Here [at Harvard] we have thought, but no school. At Yale a school, but no thought. Chicago has both.[1]

Dewey's purpose in establishing the laboratory school, however, seems to explain only one-half of James' pronouncement, the "thought" that was generated within the school. Dewey explicitly detailed the purpose of his school: "(1) to exhibit, test, verify and criticize theoretical statements and principles, (2) to add to the sum of facts and principles in its special line."[2] In 1936 Dewey again reiterated the role of the school: "The school by intention was an experimental school, not a practice school."[3]

Dewey's teaching style may explain in part why he was more interested in the experimental, or "thought" as James labeled it, than actual pedagogical practices, meaning the "real school" in James' terminology. Harold Larrabee noted that "By all the ordinary criteria, Dewey was a poor teacher." Though Dewey's students were devoted, Larrabee added that "each one will also regale you with tales of his dullness as a lecturer."[4] Further support for these accusations came from William James' biting wit. He was stirred to comment after experiencing a Dewey presentation. "Dewey's style is damnable; you might even say God-damnable!"[5]

From Dewey's apparent unsuccessful teaching and disinterest in developing a practice school, the question arises as to how it developed that James raved over Dewey's "school." The thrust of this essay posits that Colonel

Francis Wayland Parker may have supplied more of the pedagogical influence practiced in Dewey's practice school and pedagogical practices than heretofore has been recognized.

Unraveling the influence Parker may have had on Dewey's pedagogy is not an easy endeavor, especially in light of Charles Marler's assertion that "there seemed to be a strange reluctance on the part of Dewey and his devotees to admit any real debt to Parker's professional accomplishments."[6] However, educational beliefs, events, and associations in the lives of Parker and Dewey will be presented to establish the existence of a debt that Dewey owed to Parker for the pedagogy practiced in his laboratory school, the school James so passionately credited to Dewey. In addition, consideration will be given to explanations that may account for the fact that Dewey did not credit Parker much with influencing his pedagogy.

Dewey's Attraction to Parker

Why does Parker's name stand out specifically as a major influence on Dewey? The answer, partly, is that Parker presided over model laboratory schools in Chicago, Cook County Normal School (1883–1899) and Chicago Institute (1901–1902), prior to and during Dewey's years at the University.[7] Dewey himself concisely described the purpose of Parker's schools. The Chicago Institute, Dewey stated, serves "as a school of observation and practice as to the actual technique of class management and instruction. The background work of those who are in training for school teachers is closely connected with this practice."[8] Literally being practiced in Dewey's backyard was the pedagogy that he needed to complement his experimental work. Parker's practices, to the degree that they were consonant with Dewey's theories, would be a logical source from which Dewey could borrow, especially in light of the different purpose of his laboratory school and apparent deficiencies in his personal teaching methods.

In contrast to observations regarding Dewey's teaching style, Parker's methods of teaching as demonstrated at the Cook County Normal School continually attracted favorable comments from other educators. Visitors from across the United States and from foreign countries came to observe.[9] Parker's reputation grew until the Cook County Normal School became the model teacher-training institution in the United States.[10] Educators throughout the world sought Parker's practices; Dewey would not be setting a precedent in seeking Parker's influence himself.

Dewey's Early Teaching Experiences

The connection between Dewey and Parker has deeper roots than the convenience of location and reputation, however. After graduating from the University of Vermont in 1879, Dewey held two teaching positions in three

years: one in Oil City, Pennsylvania, the other in Charlotte, Vermont. Teaching deficiencies surfaced in both locations; an illustration of Vermont's is presented.

Dewey moved from Oil City to Charlotte, Vermont, where he taught the winter term of 1881–82 in a small academy. According to George Dykhuizen, "Dewey had no professional training or practice in classroom teaching, [and] his inexperience must have at times been apparent to the teacher and student alike."[11] Most of the thirty to thirty-five pupils in Dewey's charge were from farm families and ranged in age from thirteen to twenty. Dykhuizen characterized the class as being "ill-prepared" and concluded from firsthand accounts by former Dewey pupils that this "led to much frustration for both pupils and teacher, creating the general opinion among the townspeople that Dewey's teaching was 'average good.' "[12] Miss Anna L. Byington, a Dewey pupil, remembered "two things in particular about Mr. Dewey's teaching, how terribly the boys behaved, and how long and fervent was the prayer with which he opened each school day."[13]

It appears that during Dewey's beleaguered second teaching situation he resorted more to prayer than perfection of pedagogy to resolve unstable classroom conditions. Much of his time was spent reading philosophy, writing two articles that would be published, and attempting to be accepted into graduate study at Johns Hopkins University.

Dewey's Graduate Studies and Early Influences

Dewey entered Johns Hopkins University in the fall of 1882 to pursue graduate work in philosophy/psychology. He stayed four semesters, until 1884. His central intellectual experiences were from George Morris, who taught him philosophy, and G. Stanley Hall, who taught him psychology.[14]

These years during which Dewey began to formulate definite ideas about education offer further suggestive evidence of a line of influence from Parker to Dewey. While Dewey was at Johns Hopkins University, the connective link was Hall. Hall was the father of the child study movement, which held that "Everything in the school, subject matter, equipment, aims, was to be measured by the supposed needs of the child at each stage of his development."[15]

Francis Parker became the superintendent of schools in Quincy, Massachusetts in 1875. Dorothy Ross, a biographer of Hall, noted that under Parker, "The Quincy system became a local cause celebre and international attraction among educators."[16] Hall was an educator who was attracted to Parker. In 1895, he addressed the Cook County Illinois Teachers' Association, where he stated that "I visited incidentally, your Cook County Normal School. I go there when I can . . . to wind up my watch and get inspiration. I find new ideas and fresh suggestions."[17]

Indeed, Hall must have been grateful for Parker's inspirational ideas and suggestions. In 1881 he delivered a series of lectures on the history of philosophy to teachers of Boston that were only mildly received; however, a series of lectures on pedagogy that followed were very popular, "a triumph he remembered all his life." The subjects for these pedagogical lectures were reading, arithmetic, and physical culture.[18] Following his triumph, he gave "his hearty endorsement of Colonel Parker and of Parker's elementary program of education, including reading instruction."[19]

It is interesting to examine Hall's background as a reading educator, especially since he gave pedagogical advice to practicing teachers. Mitford Mathews revealed that "Hall apparently never had any experience as a teacher of reading."[20] However, Hall was not deterred from publishing in the field, where he advocated the word method for teaching beginning reading—the precise method practiced by Colonel Francis Wayland Parker.[21] Thus, Hall, who became Dewey's teacher at Johns Hopkins, was himself intimately acquainted with Parker and acknowledged the influence of "new ideas and fresh suggestions" that resulted from their contact.

Dewey took four courses from Hall, including a seminar entitled "Scientific Pedagogics," designed for prospective teachers. In addition, he conducted independent experiments in Hall's psychological laboratory.[22] Through Hall, especially in these particular areas taught by him, Parker may have indirectly influenced Dewey. The following discussion is offered as an example of an idea that may have been passed downward from Parker.

Parker complained in 1894 that too many classroom practices suffered from "the crippling effects of broken unity." In reading, for example, unity was broken by stressing "the acquisition of forms of expression, without relation to thought."[23] Some reading methods of his era emphasized skills as fragments broken into their constituent parts and taught as ends in themselves without regard for the real purpose of the reading act, the obtaining and production of thought. Parker claimed that "the alphabet, phonic, and phonetic methods applied pure and simple, with the least possible regard for thought,"[24] broke the unity between form and expression of thought. Further, Parker contended that "forms of thought expression, or skill, can only be economically acquired by the united action of the whole being; and that intrinsic thought must be the impulse, the controller of the agents."[25]

Similarly, Dewey spoke in 1899 of eliminating the dualism between the "symbolic branches" and the experiences of everyday life. He posed the question:

> How can instruction in these formal, symbolic branches—the mastering of the ability to read, write, and use figures intelligently—be carried on with everyday experience and occupation as their background and in definite relations to other studies of more inherent content?[26]

To him, reading, writing, and arithmetic instruction should be incorporated into content studies, as united processes.

Hall also complained that the reverence afforded skill areas threatened to exclude other curriculum topics. He wrote in 1901 that

> Before we let the pedagogue loose upon childhood, not only must each topic in his curriculum give an account of itself, but his inroads must overcome the fetichism of the alphabet, of the multiplication table, of grammars, of scales, and of bibliolatry.[27]

Hall implied that a balance was needed between time spent mastering skills and pursuing content topics.

Each man thus gave expression to a similar theme: reading, writing, and arithmetic should not dominate the curriculum, but instead, should be united with other experiences. Was Parker the originator of this idea for Hall and Dewey? Did Hall pass it along to Dewey? If a final answer to this possible linkage of ideas cannot be presented with certainty, still, the similarity of views is at least suggestive of a sharing of ideas.

Neil Coughlan stated that Dewey, after doing experimental work in Hall's psychological laboratory, preferred the role of the philosoph¬r to that of the experimentor who had to devise his own specific experimental procedures. The actual experiment to Dewey was only a means to "latch science" onto philosophy.[28] Hall was critical of Dewey's facts in a review of his book *Psychology* (1886), calling them fundamentally wrong and misleading. He thought Dewey was more interested in their interpretation than their accuracy.[29]

Dewey's graduate work at Johns Hopkins apparently revealed he had not only a distaste for experimental work, but that he even lacked one prerequisite for conducting it—the expertise for devising the necessary specific procedures for conducting it. In this vein, recalling his previous years as a teacher, he may not have refined his pedagogy because of an inability to devise necessary specifics or procedures in this area as well. By the time Dewey reached Chicago, Francis Parker may have been the exact person he needed to help build his laboratory school pedagogy into the success it enjoyed.

In 1884 Dewey was offered a position as an instructor in philosophy at the University of Michigan. He stayed for ten years, with one year at the University of Minnesota. Dewey's interest in primary and secondary education intensified during this period.[30] His association with two organizations, the Michigan Schoolmaster's Club and the University of Michigan Investigating Committee for Accreditation, took him to schools for observations and before education meetings for speaking engagements.

Dewey's conclusions about elementary education were negative. He thought programs and methods were ill-conceived; they did not follow the

normal learning process of young children and were poorly coordinated at various grade levels. He searched for alternatives, ones that integrated educational, psychological and philosophical ideas.[31]

According to Coughlan, from 1890 to 1892, Dewey and his "intimates" spent much time mulling "over the programs of such reformers as Pestalozzi and Francis Parker, and . . . their own ideas had begun to take a shape that we can today recognize as Deweyan."[32] From these sessions of studying Parker's ideas, Parker's influence on Dewey's pedagogy may have accelerated during Dewey's tenure at the University of Michigan.

Dewey's Direct Contact: With Parker, His Teachers, Students and Pedagogy

Upon arriving at the University of Chicago, there is documentation confirming Dewey's firsthand experiences with the Cook County Normal School. Dewey taught two off-campus courses. One was "Special Topics in Psychology," held at the Cook County Normal School, Autumn Quarter, 1894. The course was attended by some 239 persons, mostly from the faculty and student body.[33] What Dewey learned from the classmembers is speculation, but an interchange of ideas between the philosopher and Parker's practitioners must have been mutually informative.

More direct contact between Dewey and the Colonel's school exists. Clara Mitchell, a graduate of Cook County Normal and former Parker teacher, was the first practitioner hired by Dewey for his laboratory school, and the first person placed in charge when it opened in January 1896.[34] It seems likely that Clara Mitchell transferred Parker's pedagogy to Dewey's laboratory school on literally the inaugural day of the school.

When Dewey declared that the purpose of his school was experimental, he also said that it was not his intention to devise practical methods for direct application in graded school systems.[35] Dewey stuck to his intentions, for Mathews concluded that "There is no evidence that Dewey was ever interested in working out a methodology of teaching a child to read."[36] Mathews further revealed that "Dewey admitted that he did not have a definite program for teaching the older basic subjects,"[37] meaning reading, writing, and spelling.

Even a school that disavows practical purpose must have day-to-day plans. Specifically, through Clara Mitchell, how might Parker have influenced Dewey's pedagogy in the laboratory school? Mitchell taught literature and history to sixteen pupils, aged six to nine. Since beginning reading fits into this age span, and given his personal background and philosophy, Dewey had to rely on his only teacher's source of expertise. Mathews explained the source: "Not having worked out any system of his own for teaching beginners to read . . . Dewey, with one of Parker's teachers on

hand, apparently took over the word method in some such form as it was used by the Colonel's work."[38]

Clara Mitchell may have been responsible for additional Parker influence on Dewey. In the summer of 1899, Parker wrote a summary of his work at the Cook County Normal School, covering his pedagogy over the last seventeen years. For reading he wrote:

> Is it possible to teach children the art of reading and at the same time hold them to educative thinking? We were teaching nature, geography, history, literature—subjects full of interest—to which reading could be correlated. The theory stood the test, and one step in correlation was taken. The time given to learning to read became time given to study.[39]

The following statement by Dewey on beginning reading and writing is similar in theme to the Colonel's:

> It seems strange to me that one can clearly recognize that beginning reading and writing are formal, dependent upon a content requiring expression, and then give to literature any other position. Literature is certainly not an entity by itself; it is expression, as much so, as beginning reading, and educative contact with it means first initiation into the activities and ideas which are expressed.[40]

Both men argued that reading should not be taught as a separate, fragmented subject, but in conjunction with other content areas. Beginning reading should be placed in context of thinking and expressive activities, integrated with other subjects. The reason that Dewey sounded much like Parker with his comments on reading, and his remarking on literature in particular, may be the result of observing Clara Mitchell's reading pedagogy that was integrated within her teaching of literature.

A. Gordon Melvin was convinced that Dewey's direct contact with Parker's school influenced his pedagogy, commenting that "it is hard to see how the visits Dewey made to the schools under Parker's direction could fail to be a basic formative influence on his subsequent work."[41] Melvin suggested further that Dewey had personal as well as professional reasons for displaying a special interest in Colonel Parker's school:

> Dewey visited the classroom of Miss Flora J. Cooke when she taught in the Cook County Normal School. His son Fred was in Miss Cooke's first grade (1894–95) and his daughter Evelyn during the following year, up to 1896, when Dr. Dewey established his own laboratory school near the University of Chicago and the children were transferred to that school.[42]

Melvin cited conversations with Flora Cooke herself as the source for

confirming that Dewey's children were in her classroom and in verifying Dewey's visits.[43]

Flora Cooke seems to have been the leading reading authority on Parker's staff, judging by her numerous publications in the *Elementary School Teacher*.[44] What reading pedagogy might Dewey have gleaned from Cooke in the years prior to establishing his own laboratory school? Heffron identified one technique used in teaching reading, leaflets written by the pupils, that both Dewey's and Parker's teachers employed. Heffron noted that: "The [laboratory] school's published leaflets give numerous examples of children's work, showing the complete accord which existed in Dr. Dewey's and Colonel Parker's educational theory and practice."[45]

Katherine Camp Mayhew and Anna Camp Edwards described the purpose behind Dewey's use of leaflets, which contained both dictated and written works of the pupils:

> They formulated the meaning of each child's actual experience, they were often tinged with the flavor of his own imaginative interpretation and brought home to him, as to others, the vitality of his experiences . . . their reports were often reviews of the day's, the week's, or term's work.[46]

Flora Cooke's objectives for the reading leaflets are presented for comparison:

> To relate more closely the school experiences of the children of the First and Second Grades with the rest of their lives and make their reading react directly upon their actions . . . [they are] to sum up the observations of the children and are to be the outcome of their work.[47]

As Dewey observed Cooke's pupils' reading, the philosopher about to turn practitioner may well have filed mental notes on this practice.

Margaret Hoblitt, a Dewey laboratory school teacher, documented more reading pedagogy that also may have an antecedent date.

> In order to insure alertness of attention, they [pupils] are sometimes asked to watch while work is put upon the blackboard and then after it has been quickly erased, tell what it said. This is of service in guarding against the danger of mere word-calling into which their reading constantly tends to degenerate.[48]

In describing a group of pupils engaged in learning a word written on the blackboard during a science lesson, Heffron recalled a similar technique developed years before in Parker's school:

> The word was . . . written . . . then erased. . . . Notice that the word was not left for the children to copy. Because of this, concentration upon the

> moment's view of the right form was intense, and only a third writing was necessary, in this case, for even the very slowest child to reproduce the word correctly. A pedagogical discovery had been made. . . . Later, publicly, Colonel Parker gave this teacher full credit . . . in one of his books.[49]

This blackboard reading and writing practice essentially aided in promoting and maintaining pupil interest, attention, recall, and thought. Arthur Wirth, a Dewey biographer, like Parker, recognized the technique's originality, and heaped praise on the Dewey school: "It would have to be recognized, too, that this was a genuine pioneer effort."[50] However, though both Parker and Wirth lauded the pedagogy, Wirth may have misidentified the pioneer.

Dewey as Generalist

Long-time Dewey friend, Sidney Hook, identified a dualism that Dewey admitted he possessed: a gift for expressing abstractions, but an inability to accompany them with concrete specifics. Hook further noted that Dewey used to say his intelligence was too abstract and that he had difficulty thinking of concrete illustrations to support his general principles. In fact, Dewey was "exaggeratedly grateful for concrete suggestions."[51] Hook wrote that "The more I reflect the more confident I am that he [Dewey] is right in general outline and wrong in many details."[52]

Junius Meriam underscored Hook's reflections. After reviewing Dewey's writings on pedagogy for pupils, Meriam concluded that "with an implied emphasis through his philosophy . . . Dewey leaves to his readers his invitation to 'read between the lines' "[53] for its application. Those who knew Dewey through most of his life agree that his strength was with formulating generalities, and a major deficiency was being unable to devise supporting details. He therefore simply avoided dealing with them, seeking help from others.

Merle Curti, with more certainty than other writers about the influence of Parker's pedagogy on Dewey, concluded that "In Chicago Francis W. Parker and Ella Flagg Young not only provided him with suggestions for the organization of his own laboratory school but often helped him translate his philosophic conceptions into their empirical equivalents."[54]

In part, Curti may have based his conclusion on an organizational scheme called the "morning assembly" and to pedagogical practices comprising it. Dewey's description of its organization and format seem remarkably similar to the version already practiced in the Colonel's school: "The children . . . meet in general assemblies for singing and for the report of the school as read by different members of the groups. All hear the report of what each group is doing."[55]

Martha Fleming, a Parker teacher, wrote her observations of Parker's morning assembly: "It is the family altar of the school to which each brings his offering—the fruits of his observations and studies, or the music, literature and art that delight him; a place where all cooperate for the pleasure and well-being of the whole."[56]

Based on Dewey's documented shortcomings and possible adoption of Parker's practices to overcome those deficiencies, a question mused by Franklin Parker seems closer to being answered: "If Dewey's educational philosophy evolved in Chicago in the 1890s, might not Parker have provided him with the concrete example of a democratic, child-centered school?"[57] Indeed, Parker may have supplied Dewey with a concrete example, but since the two shared common views, it must be added that they may have, as Curti stated, "reached similar conclusions independently"[58] on some pedagogical practices.

Dewey's Attraction to Parker's Personality

Another question to analyze after Franklin Parker's is: Why was Dewey seemingly so reluctant to admit a possible indebtedness to Parker? Parker spoke freely of Dewey's contribution to him. For example, Dewey delivered his educational creed to Parker's faculty at the Cook County Normal School, whereupon Parker exclaimed with deep feeling, "This educational theory I have never been able to state satisfactorily. This is what I have been struggling all my life to put into action."[59] Further, Ida DePencier stated that "Colonel Parker once said that he and John Dewey shared the same ideas but that Mr. Dewey could express these ideas in philosophic terms . . . better than he could speak for himself."[60] These confessions may reveal a humble Parker, but the point is that Parker was candid in praising Dewey for assistance in his work.

Since Parker freely acknowledged Dewey's assistance in his work, why did not Dewey return similar spontaneous utterances crediting Parker with influencing his pedagogy? The answer may be submerged in Dewey's personality itself. Over the years Hook was a close friend of Dewey, and used words like "naturally shy," "reticent," and "undemonstrative in manner" to describe him. In addition, Hook characterized him as "not a scintillating conversationalist," and one who rarely entertained a "reminiscent mood."[61]

That Dewey was not given to reminiscing is curious. Hook explained more fully his efforts to coax Dewey into the past: "Dewey never gossiped, and although with the exuberance of youth I used to press him hard on men and events he had known intimately, except once or twice he never gave way."[62] Another side of Dewey was his possession of an apparent future orientation. Hook recalled that

> Up until the last year or two of his illness, whenever we met, it was in the spirit of 'Well, what's next on the agenda?' There was always a project for some committee, an article or book to be talked over, a problem to be thought out, a reply to the perennial critics, an open letter or petition to be drafted.[63]

It appears that when the undemonstrative Dewey finished a project he set it aside, rushing eagerly into future challenges. After all, Dewey was a diverse thinker, education being but one field enlisting his mind. Also, by 1900 Dewey was moving away from any direct concern with practical pedagogy.[64] By nature then, rather than malice, once Dewey left his concern for pedagogy, he may not have thought to record Parker's influence on him, even when intimates attempted to resurrect the past. His mind was probably far afield into new thoughts, harboring no intentions of slighting Parker. This might be what Dewey meant when he said, "My ideas tend, because of my temperament, to take a dominant consideration, but I have been fortunate in a variety of contacts that has put substance into these forms."[65]

Joseph Featherstone concluded the following about Dewey's personality and motivations: "The inner self of the smiling public man will probably always elude us."[66] And so too, perhaps, will the answers to many questions that surround Parker's influence on Dewey's pedagogy, forever hidden in his inner self.

Dewey/Parker Rivalry

Another possible explanation as to why Dewey may not have more strongly acknowledged Parker's influence on his pedagogy arises from events between the years 1898 to 1904. Mrs. Anita McCormick Blaine, a wealth and socially prominent Chicago citizen and daughter of Cyrus McCormick, inventor of the reaper, had followed sympathetically Parker's yearly financial and educational confrontations with the Chicago School Board. Her interest in Parker also was motivated by her son's enrollment in Parker's practice school. Endeavoring to remove Parker from his troubles, Mrs. Blaine offered Parker a million dollars to finance a school where he could be free to carry out his ideas.[67] After much discussion with his faculty over leaving public for private education, Parker, accompanied by most of his faculty, left the Chicago Public Schools in June 1899.

Ironically, problems beset Parker's new venture right up to the opening of the Chicago Institute—Academic and Pedagogic on October 1, 1900. This new teacher training and practice school began in a rented building amidst diminished fanfare with less than two hundred students. After limping through the first year, plans for the Institute's future were reconsidered.[68]

It was suggested during the Institute's first year that it be joined with the University of Chicago. However, with a merger, the setting for a potential

Parker/Dewey rivalry was not unforeseen.[69] Thus, both men sought to guarantee the existence of their respective schools during initial merger meetings. The minutes from these meetings revealed that "Dr. Dewey expressed himself . . . as unwilling to give up his work in his school . . . [and] Colonel Parker expressed himself as unwilling to give up being the head of his school."[70] Since Dewey saw in Parker a threat to his own prized laboratory school, it is doubtful that he would praise Parker for fear of undermining the prestige of his school, which might have contributed to its discontinuance.

The Chicago Institute merged with the University of Chicago by June 1901. Parker became the Director of the new School of Education, which included a kindergarten and elementary school. Dewey was in charge of the Department of Pedagogy, which contained a secondary school. However, persistent vocal outcry from parents of children in his laboratory school led to its continuation with Dewey as head.[71] In the fall of 1901, both men opened elementary schools under the University's unbrella. Unfortunately, in March 1902, Parker died before the union could bear fruit.

Parker's death unsettled the relationship between Dewey and his faculty and Parker's followers. DePencier noted "cliques and antagonisms" that developed. For instance, when Dewey assumed Parker's position as Director of the School of Education, Wilbur Jackman, a Parker devotee, became the dean. The two quarrelled continuously over administrative procedures of the school, and also over the offensive treatment each man afforded the other. A stream of accusatory letters were sent to Mrs. Blaine and to the University's President, William Rainey Harper.[72]

The point is that the turbulent events in the years following Parker's death did not provide a conducive framework for Dewey to address more specifically Parker's influence on his pedagogy. Instead, the antagonisms with Parker's associates may have subconsciously restrained Dewey from commenting on Parker.

Conclusion: A Dewey Admission

Edward Power raised the question of Parker's influence on Dewey and cautiously concluded that "Dewey was aware of Parker's views and approved of them; so much is admitted, yet we need not maintain that Dewey borrowed from Parker."[73]

William Heard Kilpatrick's information may undermine Power's reservation, for Kilpatrick obtained the following confession from Dewey himself:

> As to the origin of Dewey's educational ideas, some thought he had derived these from Rousseau and Froebel. I once asked him about this and he told me explicitly that he had not read either one until after he had formed his educational outlook. He did say in another connection,

> that he had got help in his educational thinking from Francis W. Parker, who was active in education in Chicago when Dewey came to the University of Chicago.[74]

Where Hook mainly failed, Kilpatrick succeeded; Dewey did illuminate some past influences. Power's conclusion needs re-examining in light of Dewey's admissions. How much or how little Parker influenced Dewey still remains debatable. That Dewey borrowed from Parker's pedagogy is a debt Dewey's own words, in a rare moment of candor, imply existed. This paper implies it existed much more than Dewey ever admitted.

Notes

[1] William James to Mrs. Henry Whitman, 29 October 1903, in Henry James, ed., *Letters of William James*, 2 vols. (Boston: Atlantic Monthly Press, 1920), 2:201–02, quoted in Neil Coughlan, *Young John Dewey: An Essay in American Intellectual History* (Chicago: The University of Chicago Press, 1975), p. 150.

[2] John Dewey, "The University School," *University [of Chicago] Record* I (November, 1896): 417, quoted in Ida B. DePencier, *The History of the Laboratory Schools: The University of Chicago 1896–1965* (Chicago: Quadrangle Books, 1967), p. 18.

[3] John Dewey, "Theory of the Chicago Experiment," Appendix II, p. 464, quoted in K. C. Mayhew and A. C. Edwards, *The Dewey School: The Laboratory School of the University of Chicago, 1896–1903* (New York: Appleton-Century, 1936), quoted in Maxine Greene, "Dewey and American Education, 1894–1920," *School and Society* 87 (October 10, 1959): 381.

[4] Harold Larrabee, "John Dewey as Teacher," *School and Society* 87 (October 10, 1959): 379.

[5] William James in conversation with Prof. Edward G. Spaulding, quoted in Larrabee, p. 379.

[6] Charles Dennis Marler, Jr. "Colonel Francis Wayland Parker: Prophet of the 'New Education,' " (Unpublished Doctor's dissertation, Stanford University, 1965), p. 227.

[7] For an excellent account of Parker's years with the Cook County Normal School, the Chicago Institute, and subsequent merger with University of Chicago, see Robert McCaul, "Dewey and the University of Chicago," *School and Society* 89 (March 25, 1961): 153–57, and McCaul, "Dewey's Chicago," *The School Review* 67 (Summer, 1959): 258–80.

[8] John Dewey, "The University of Chicago School of Education," *The Elementary School Teacher* 3 (November, 1902): 201.

[9] Franklin Parker, "Francis Wayland Parker, 1837–1902: Early American Progressive," *Paedagogic Historica* I (1961): 4. A reprint.

[10] Edward Dangler, "From Quincy to Chicago—The American Comenius," *Harvard Education Review*, 13 (January, 1943): 22.

[11] George Dykhuizen, *The Life and Mind of John Dewey* (Carbondale: Southern Illinois University Press, 1973), p. 21.

[12] *Ibid.*

[13] *Ibid.*, p. 25.

[14] Coughlan, p. 18.

[15] Merle Curti, *The Social Ideas of American Educators* (n.p.: Charles Scribner's Sons, 1935; reprint ed., Totowa, New Jersey: Littlefield, Adams and Co., 1974), p. 416.

[16] Dorothy Ross, *G. Stanley Hall: The Psychologist as Prophet* (Chicago: The University of Chicago Press, 1972), pp. 112–13.

[17] G. Stanley Hall, "The Study of Children," Address by Dr. G. Stanley Hall before the Cook County, Illinois Teachers' Association, May, 1894, (Washington: Government Printing Office, 1895), p. 369.

[18] Ross, pp. 112–13, 118.
[19] Mitford M. Mathews, *Teaching to Read: Historically Considered* (Chicago: The University of Chicago Press, 1966), p. 138.
[20] *Ibid.*, p. 135.
[21] *Ibid.*, pp. 133, 138.
[22] Dykhuizen, p. 31.
[23] Francis W. Parker, *Talks on Pedagogics: An Outline on the Theory of Concentration* (New York: E. L. Kellogg and Co., 1894), pp. 268–69.
[24] *Ibid.*, p. 270.
[25] *Ibid.*, p. 271.
[26] John Dewey, *The School and Society*, (Chicago: University of Chicago Press, 1899), pp. 118–19, quoted in Mathews, p. 129.
[27] G. Stanley Hall, "The Ideal School as Based on Child Study," *Forum* 32 (September, 1901): 24–25, quoted in Mathews, p. 129.
[28] Coughlan, p. 57.
[29] G. Stanley Hall, quoted in Coughlan, p. 58.
[30] Arthur Wirth, *John Dewey as Educator: His Design for Work in Education (1894–1904)* (New York: John Wiley and Sons, Inc., 1966), p. 15.
[31] *Ibid.*
[32] Coughlan, p. 108.
[33] Robert McCaul, "Dewey's Chicago," *The School Review* 67 (Summer, 1959): 273.
[34] John Dewey, "The University Elementary School: History and Character," *University Record* 2 (1897): 72–75, in *John Dewey: The Middle Works, 1899–1924, Volume 1: 1899–1901*, ed. by JoAnn Boydston (Carbondale: Southern Illinois University Press, 1976), p. 325.
[35] John Dewey "The University School," *University Record* I (November, 1896): 417–19, in Boydston, *Early Works of John Dewey, 5: 1895–1898*, p. 437.
[36] Mathews, p. 130.
[37] *Ibid.*, pp. 127–28. Mathews does not list a source for Dewey's admission.
[38] *Ibid.*
[39] Francis W. Parker, "An Account of the Work of the Cook County and Chicago Normal; School from 1883–1899, June, 1902," *Elementary School Journal* (75th Anniversary Issue, 1975): 11.
[40] John Dewey, "Interpretation of the Cultural-Epoch Theory," *Public School Journal* 15 (January, 1896): 223–36, in Boydston, *Early Works of John Dewey, 5: 1895–1898*, p. 251.
[41] A. Gordon Melvin, *Education: A History* (New York: The John Day Co., 1946), p. 322.
[42] *Ibid.*, pp. 322–23.
[43] *Ibid.*, p. 323.
[44] See Flora J. Cooke, "Reading in the Primary Grades," *The Course of Study* 1 (October, 1900): 111–15. Cooke, "The Preparation and Use of Reading Leaflets in the Primary Grades," *The Course of Study* 1 (January, 1901): 43–50. Cooke, "Parker Interpreted," pp. 397–420.
[45] Ida Cassa Heffron, *Francis Wayland Parker: An Interpretive Biography* (Los Angeles: Ivan Deach, Jr., 1934), p. 46.
[46] Mayhew and Edwards, p. 349.
[47] Cooke, "Reading Leaflets," p. 431.
[48] Margaret Hoblit, "Reading: Group IV," *Teachers' Reports of the University Elementary School*, Unpublished (March, 1900): 301–03. In the archives of the University of Chicago Laboratory School, quoted in Wirth, p. 164.
[49] Heffron, pp. 44–45.
[50] Wirth, p. 165.
[51] Sidney Hook, "Some Memories of John Dewey," *Commentary* 14 (September, 1952): 252.
[52] *Ibid.*, p. 253.

[53] Junius Meriam, "John Dewey in History," *School and Society* 87 (October 10, 1959): 377.

[54] Curti, p. 521. For a discussion of Ella Flagg Young's influence on Dewey's pedagogy, see Joan Smith, "The Influence of Ella Flagg Young on John Dewey's Educational Thought," *Review Journal of Philosophy and Social Science* II (1977): 156–69.

[55] John Dewey, "The University Elementary School, Studies and Methods," *University Record* (May 21, 1897), quoted in Mayhew and Edwards, p. 35.

[56] Martha Fleming, "The Morning Exercise as A Socializing Influence," *Studies in Education* (n.d.): 4, quoted in Heffron, p. 66.

[57] Franklin Parker, p. 120.

[58] Curti, p. 379.

[59] Francis W. Parker, quoted in Heffron, p. 36.

[60] Ida DePencier, *The History of the Laboratory Schools: The University of Chicago 1896–1965* (Chicago: Quadrangle Books, 1967), p. 18.

[61] Hook, pp. 245–46.

[62] *Ibid.*, p. 247.

[63] *Ibid.*, p. 245.

[64] Joe Burnett, "Introduction," in Boydston, *John Dewey: The Middle Works, Vol. 1:1899–1901*, p. xix.

[65] John Dewey, quoted in P. A. Schilpp, Editor, *The Philosophy of John Dewey*, second edition (New York: Tudor, 1951), pp. 44–45, quoted in Larrabee, p. 380.

[66] Joseph Featherstone, "The Education of John Dewey, *History of Education* 7 (1978): 219.

[67] DePencier, pp. 39–40.

[68] For a highly readable and more complete account of the planning, construction and merger of the Chicago Institute with the University of Chicago see Gilbert A. Harrison, *A Timeless Affair: The Life of Anita McCormick Blaine* (Chicago: The University of Chicago Press, 1979).

[69] Robert Tostberg, "Colonel Parker's Quest for a School in Which All Good Things Come Together," *History of Education* (Summer, 1966): 31.

[70] Minutes of Meetings of Chicago Institute Board of Trustees, January 25, 1901. Blaine MSS, quoted in Tostberg p. 34.

[71] Harrison, p. 98.

[72] DePencier, p. 47.

[73] Edward Power, *Evolution of Educational Doctrine: Major Educational Theorists of the Western World* (New York: Appleton-Century-Crofts, 1969), p. 345.

[74] William Heard Kilpatrick, "Personal Reminiscences of Dewey and My Judgment of His Present Influence," *School and Society* 87 (October 10, 1959): 375.

What Does It Mean To Solve Problems?

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Introduction

Learning to solve problems is a major activity in modern schools because intellectual and social progress and sometimes even life itself are thought to be dependent on solving problems. The key concepts in this line of thinking are those of problem and solving, but both have escaped careful scrutiny. What exactly is a problem? And on what precise grounds can a person be said to solve a problem? This paper focuses on the second question, first having been addressed elsewhere.[1]

In the body of the essay I will articulate six conditions which govern the application of the word "solving." Then the concept of solving will be related to the concepts of trying and intention. Finally, brief comments will be made about several closely associated expressions such as "finding the solution" and "figuring it out."

Stripped of subtleties and qualifications, a problem is an inadequately formed situation which is judged to be changeable by some agent with some difficulty in a way which would render it adequately formed. And as an overview of what follows, when a person solves any problem whatever, the person personally produces (the fourth criterion described below) with some difficulty (#6) a structure (#1) that is right (#3). The person also completes, ends, removes, or stabilizes one thing or another (#2), and performs a commendable action (#5).

1. Bringing About Structure

Solving is an activity which brings about a result, and the identity of the concept of solving is a function of the activity-result combination. So in depicting each of the six identifying criteria of the concept one must pay attention both to the activity and to the result.

The first criterion is that whenever someone solves anything whatever, some form, structure or pattern is brought about out of an initial state which is disorganized, unformed, or lacks the desired characteristic. Solving a labor dispute in some instances is a matter of bringing order to a disorganized

or even chaotic situation. In other labor disputes both labor and management are well organized but the strike situation lacks the desired characteristic of workers working. Solving a picture puzzle[2] is a matter of bringing order to the disorganized array of pieces. Solving a crime is a matter of building a correctly ordered narrative of events. Solving an algebra problem is a matter of forming a desired theorem from an initial theorem, e.g., deriving '$x = 4$' from '$x + 2 = 6$.'

In these and all other cases, solving consists of constructing in mind, in theory, or in the world itself some sort of organization, pattern, or continuity of action. In the intellectual construction cases, e.g., solving mathematical and city planning problems, one is enabled or helped to build an explanation, a theory, a true narrative, a plan or policy (as a solution to a social problem) by finding a pattern in data, by deriving some proposition or theorem, or by determining some key fact. What had been unorganized, disjointed, ambiguous, disfunctional, hidden, indefinite, or a matter of indecision becomes organized, unified, continuous, clear, explicit, or decided. Hence the unsettledness of unwanted ignorance, conflict, or indecision gives way to a settled state of knowledge, agreement, or resolve. And thus what was puzzling, bewildering, confusing, tension-producing, concern-producing, or fear-producing no longer puzzles, bewilders, confuses, etc. In the case of world-changing kinds of solving, the structure which is produced is an intelligible pattern of action or objects.

II. Completing, Ending, Removing, Stabilizing

When solving something one completes, ends, or removes one thing or another, and/or brings about some sort of stability or permanence. Solving a textbook problem in mathematics is a matter of completing the derivation of a theorem. Some other cases of solving consist of putting an end to something, as distinguished from quitting merely because one is bored or tired. When the smallpox epidemics ended in the United States that problem was solved. Removing something which inhibits action or is otherwise unwanted is another form of solving a problem. Removing the log blocking the traveler's route is the solving of his problem. The state which completing, ending, or removing brings about in solving is characterized by some sort of permanence or stability. One's financial problems haven't been solved if they crop up again (before an unspecified time has elapsed). The problem encountered in getting a new engine to function properly is solved only when it functions properly over a period of time.

In the cases of intellectual solvings such as in mathematics and in policy studies where solutions are proposed to social problems, the resultant state is of course not something that endures (in a stable manner) through time, but one which "exists." Entities or states of affairs that "endure" change over

time if only very slowly, but entities that "exist" singly or in patterns are abstract in nature (or mental in nature if one prefers a conceptualist ontology) and thus are not subject to physical, social, or psychological forces. Thus solving such problems is a matter of creating (if that is the right word) theorems, propositions, and plans which exist but endure neither forever nor for a period of time.[3]

The fact that a statement reporting that something has been solved tells of something's completion, etc., distinguishes the concept of solving from the notions of calculating, computing, figuring, thinking, and investigating. One may do any of those until the work on the problem has been completed, but completion is not a requirement for applying those lables. An hour of calculating retains the label "calculating" even though the task never was finished. In a manner of speaking, calculating is complete at every moment of its existence. Similarly, computing is computing independently of the completion of the job. The same is true of figuring, thinking, working, and investigating. To indicate completion when these verbs are used it is necessary to add adverbs, to nominalize, or to use other devices, e.g., "figure it out," "think it through to a conclusion," "work the problem," "compute the answer," "did the calculation," and "did the investigation." The word "solving" in assertions does not need modifiers however in order to indicate completion of the activity. An hour's worth of solving is entitled to the title of "solving" if and only if the job has been completed and if and only if a solution is generated.[4] If the attempt to solve happens to stall at the last second, and for that reason no solution is obtained, the word "solving" cannot be part of a true description of *that* action on the problem. The word "solving" in spite of its "-ing" suffix is not predicatable of an unfinished affair; it is always part of an all-or-none judgment. This is the reason that it is impossible to justify an assertion that a person is solving a single problem, anagram, etc., while he is still working on it. It is always possible to falter at the last moment and thus never solve it. A warranted assertion about someone solving a *single*, particular problem must always be an assertion about the past, the existence of the present participial form "solving" notwithstanding. There are several reasons why this feature of the concept is not noticed. One is that the word "solving" frequently is used as a gerund, as in "Solving algebra word problems can be pure torture," where there is no intention to limit one's remarks to any particular time. The second reason is that the phrase "solving a problem" appears to be logically in the same class with, say, "running a race." However, an assertion that a person is running a race can be justified while the race is still in progress. Lastly, the historical present tense can also be used.

III. Making Something Right

Sometimes to solve is to produce a statement that is right, meaning "true." The right answer to a physics problem is a proposition or conclusion

that is true. Solving mathematical problems will produce propositions of theorems that are "true" as that word is understood in mathematics. In other cases, however, the word "right" can mean either "conventionally acceptable" or "coming up to a mark." When it is said that a couple has solved a problem concerning their marriage, it might mean that they are now acting in ways that are conventional or fit a traditional mold. But it might also mean that the couple's behavior now has come up to some mark or standard of adequacy (which logically is independent of its conventionality). Whether "right" means "true," "conventionally acceptable," or "coming up to a standard," to say that a problem, crisis, concern, etc., has been solved is to say that something has been brought about which is right.[5] Or, in the case of a solution-plan, the plan is right in that if followed, the result produced would be right in one of these three ways.

Problems sometimes are said to be "improved" or "ameliorated" rather than "solved" (or "corrected" or "rectified"). In such cases the severity of the problem is lessened but the problem remains. The "problem" of the shortage of nurses working in hospitals, according to a radio news report, was "ameliorated" as the result of an elaborate recruitment effort directed at registered nurses who currently were not working as nurses. But, the report went on, the problem "persists."

IV. Personally Producing a Solution

To solve a problem a person personally must do something. The traveler who solves his blocked-path problem by sliding the barrier over far enough to slip by is personally acting on the basis of several kinds of facts as well as on the basis of his chosen plan of action and of a goal. He is acting on the basis of the facts of the initial situation, the facts of the situation as it changes while carrying out his plan, and the background or supplementary facts or presumptions as to the facts. He is also acting on the basis of beliefs as to what outcomes are possible, and on the basis of what he is prepared to do in order to bring about a particular outcome.[6] The direct production of the solution need not be a matter of executing from the start an efficient plan of action of carrying through on first try a logically tight and tidy derivation. It may be a disorganized effort that nevertheless is eventually successful. Or it may be a so-called "intuitive" or inspirational affair in which one hits upon the needed method or answer without being able to articulate one's reasoning. It may even include reasoning done while asleep, as mathematicians have sometimes claimed to have done when they have solved problems. In any case a solution is produced personally.

What happens when someone solves a problem is not something that normally would happen at that time and at that place without one's personal intervention. The results of solving are in this way artificial creations or constructions. Solving is a personal intrusion into the natural order, or, in the

case of intellectual solutions, a personal constructing that would not otherwise occur. Knowledge of fact, resources, technique, and imagination are put to work.

The mathematics student who copies another student's homework is not solving the assigned problems, and the reason is that he is not personally intellectually entertaining the theorems and is not personally choosing and applying the appropriate rules of operation. He is not doing these with his own conceptual equipment. The copier is obtaining the solutions and the steps leading to the solutions, but he is not doing them by solving the problems. He may solve other problems by doing these things, but he is not solving these problems. As for the traveler who hires someone else to move the barrier for him, at least part credit would be due the traveler if he personally sized up the situation, dreamed up an hypothesis or plan, and personally directed the physical removal of the barrier. But if he merely hired someone to do all of the investigating, planning, and executing, then he might end up with no problem, but not because he solved it. About the only credit he could claim would be that he at least thought it would be worth his money to have someone else try their hand. The statement, "He solved it," normally bestows credit on the person for at least exhibiting the strength to persevere in the face of difficulty, and if the lazy traveler were to claim that he had solved it, he would be taking credit when none is due him. Of course, solving can be a group or cooperative action, and the individual members of the group need not participate in every phase in order to claim some credit, but at least each individual must have personally done some of the physical or intellectual moving. In solving anything there is always at least some small factor of luck involved, because solving is an achievement, and success in matters as difficult as solving cannot be commanded to occur (see below for further discussion). If the luck factor is large and the productive work done by the agent is little, then the credit-bestowing judgment that he solved it will be withheld. But if the luck factor is minor and the personal production factor is large, then the agent would be judged to have solved it.

V. Being Commendable

A situation is a problem because in part something about it is undesirable or unwanted in the opinion of the person who calls it a problem. Solving a problem is in part the ending or removing of the undesirable aspect of the situation. This is rather obvious in the case of the traveler encountering what is for him a barrier. But it is not so obvious in the case of the student being asked to solve a classroom problem. The undesirable aspect of an algebra problem is the presence of the variable "x" in a theorem when he is told to "solve for x."

The situation or theorem or plan after the unwanted aspect has been

removed must be if not desirable at least less undesirable. Solving social, psychological, political and economic problems often produces results which have various imperfections, but application of the word "solved" need not hang on producing a problem-free world. Judging such matters is complicated by the fact that, especially with social problems, considerations of methods used and extraneous results and consequences can enter into deciding whether the problem has been solved.

Solving problems is not merely commendable for the results produced. Solving ordinarily is commendable because it requires that some difficulty be overcome. This requires that one try and that one succeed. Solving is an achievement which is indicative of perseverance and competence, both of which are viewed traditionally as praiseworthy characteristics. In fact solving a problem in some cases is commendable only because the solver persisted in the face of difficulty and displayed skill, and not because he brought about a result or consequence that was desirable in any way. Hitler's "final solution" to his "Jewish problem" is one example.

VI. Being Difficult

The concepts of solving and being difficult are related in a complex way which will be brought out in this section. Whenever a problem, puzzle, riddle, etc., can be said to exist, there exists a situation, proposition, etc., in other words an apparently workable material, which someone judges to be desirable to change into a finished product or solution usually in spite of anticipated difficulty in doing so. The belief that the changing might be difficult may be based on (1) previous attempts to solve that particular problem, or (2) previous experience with other instances of the same general kind, and on subsidiary beliefs about the skills, resourcefulness, motivation possessed by (1) the person who is about to try to solve the solvable, or (2) the average student or person for whom the problem, puzzle, etc., is intended.

There exist a number of implications to be drawn from this partial portrayal of the concept of problem which bear directly on the relationships among the concepts of solving, being difficult, and problem (and other concepts of solvables). First, some problems remain problems even though no one has attempted or ever will attempt to solve them. Second, a problem could resist all attempts to solve it and may even prove to be insolvable, yet still be a problem. Third, the belief about the skills, etc., of the particular person who is about to attempt to solve a problem, or the belief about the average competence and motivation of students in general may be grossly inaccurate, and as a result, every one of the students who attempts to solve a particular problem may find it so easy that he can derive the correct answer with no more effort than it takes to read a comic book. Yet the problem will

still be entitled to the label "problem," and solving it will still be entitled to the label "solving." An algebra textbook problem is called a "problem" by the textbook's author, not because *he* had any trouble solving it, but because he believes (in part) that the typical student using the text would experience some difficulty in trying to solve it (but not so much that he would give up trying). This algebra problem is correctly called a "problem" even if every student who ever attempted to solve it were to find it no challenge at all. The fact that the author grossly underestimated his target audience does not mean that the problem should be relabeled. And likewise, the fact that no student found the problem difficult to solve does not mean that the solving should be relabeled either. In other words, attributions of the word "problem" and "solving" to particular instances do not depend upon the particular effort to solve that particular situation being difficult. Further, the problem printed in the textbook, if the book is a commercial success, will be solved many times by many students. But unlike the problem of a particular dead battery which disappears when the battery is recharged, the textbook problem does not cease to exist when solved by a student. It exists "forever," just as a crossword puzzle continues to be a puzzle, and continues to be entitled to the label "puzzle" after one or a thousand people have solved it. The problem in the textbook exists from the moment of conception and cannot be aborted by being solved.

From a core or paradigm of problems of average difficulty to solve, the application of the word "problem" generalizes or spreads (in a logical sense only) so far in both the "difficult" and "easy" directions that no matter how hard or easy a particular problem is to solve, it is still called a "problem." And the application of the word "solve" likewise has spread so far that no matter how hard (if the problem is solvable at all) or how easy the outcome's production might be, it is called "solving."[7] Some of the glory of the difficult solution-productions has as it were brushed off onto the very easy cases. The concepts of problem, solving, and being difficult don't center on easy learning exercises in textbooks. The three concepts dovetail when thinking of situations which cause one to scheme and perspire. All problems become stereotyped as solvable but with difficulty. Hence the statement that "problems are difficult to solve" should be understood not as a generalization about all problems but as a claim about the meaning of the word "problem."

The notion of being difficult is tied logically both to objective features related to the changeability of objects in or elements of situations, and to the amount of effort the solver must make if the desired change is to be brought off. Some purely natural processes are very complex and involve extreme pressures, but they are not described as "difficult" (or as "easy"). They simply happen. The word "difficult" gets its point from the efforts of sensate agents to bring about something in spite of the natures of the

structures, states, processes, and powers of nature. There is an essential connection between the meanings of the terms "being difficult" and "trying," so it is not surprising that the word "trying" is not used to describe non-sensate processes either. The "hero" of *The Little Engine that Could* was a product of gross personification. Locomotives don't *strive*.

It doesn't sound odd to refer to problems, puzzles, riddles and the like as "difficult" or "easy" because it is part of the meanings of the words "problem," etc. If it is a problem, etc., then its nature will quite likely make it at least somewhat difficult to work on. And the word "difficult" becomes meaningful only as it is used in sentences which are about or suggest actions of sensate beings, including those of attempting to solve something. Using the number of elements and relationships in a structure, situation, or task carried out on them as a measure of difficulty is warrented only because the number probably bears a rough relationship with the amount of effort required from a sensate being if it is to solve the puzzle. But to abstract the notion of making an effort from the most basic features of sensate entities, namely, intensity of concentration and "trying hard" to do something, is impossible. The concept of being difficult cannot be separated from the concept of action of sensate beings, or from the idea of animals possessing skills acquired through training. The concept of being difficult involves a presupposition that the world usually will resist manipulation, but the concept cannot be analyzed solely in terms of the non-sensate world. The general tendency to use anthropomorphical expressions in describing and "explaining" natural and mechanical processes is a collection of many more specific tendencies, including a tendency to give credit to locomotives and computers for what humans use those mechanical aids to accomplish. Computers can be said to be wired, programmed, and run, but they are not said to be trained or to become skilled. Nor are they said to strive. Thus to say that computers *solve* problems is to be guilty of manufacturing intellectual mush.

The Relationship of Solving to Trying and Having Intentions

There is a conceptual connection between being difficult and trying. Trying is also implied in the notion of personally producing something. And all three, trying, being difficult, and personal production, imply having an intention. These relationships are both important and complex.

Trying. The two major senses of the word "trying" are both tied to the word "solving." One sense is that of "trying to" or making an effort. This sense figures in the idea that solving is difficult to bring off, and thus requires that the world-be solver try to do so. The other sense is that of "trying out" or testing. It is this sense which appears in the commonly expressed idea that problem solving necessarily involves the testing of an hypothesis. This is the

familiar sense in which a housewife "tries" a new brand of soap in order to test the proffered hypothesis that its qualities are superior to those of her present brand of soap. The first sense of trying is hooked to the idea of bringing something about, and the second sense is hooked to the idea of gaining whatever knowledge comes from testing an hypothesis.[8] Both senses are obvious when one speaks of a research chemist trying to solve a difficult problem, but when someone speaks of an earthworm[9] trying to solve a problem the suggestion that it is testing an hypothesis must be understood more modestly as its crawling away from adverse conditions and then detecting if those adverse conditions are also present in its new environment.

The word "trying" only comes into use in describing the actions of human and sub-human creatures when there is doubt about the outcome or doubt as to whether something is the case. But an expert in solving what is for him a very easy problem would not normally be described as "trying," not because he already knows the answer, but because there isn't much reason to doubt that he will produce the solution. Here once again, the stereotype that problems are (all) somewhat difficult to solve is operative. The nature of the action with very easy, and therefore atypical problems does not make a difference. Basically the same point also applies to the case of a very difficult problem being solved by someone who is so interested and engrossed in the project that "he didn't even have to try." It is the nature of the typical action which also counts here.

Because trying implies that failure is a distinct possibility, there is the matter of explaining one's occasional successes in producing solutions. It is here that the notions of luck and of being beyond one's power to control come into the picture. A person can decide whether or not to try to solve something, but having tried, he cannot decide whether or not he will succeed in solving it. Solving is in this respect like understanding, like seeing after having looked for something, or like hearing after having listened for something. He can decide whether or not to study something, and after studying, he may or may not find that he understands it. But he cannot choose to understand it or command himself to understand it. He could choose not to understand it only in the sense that he could have refused to study it. But once having studied it to a certain extent, he has no control, as it were, over whether or not he understands it. Similarly, he can refuse to try to solve something, but having tried, the solution's existence is not dependent upon the solver's will. Thus when thinking about the solving of anything, there is always some factor over which an agent cannot be considered to have control, a factor without which solving cannot be thought of as being possible. In standard presentations of how science works, the coming into possession of the right hypothesis is described as "occurring" to the scientist. And in the solving of a mathematical problem a method which turns out

to be successful is said to "pop" into the mathematician's head. And during other sorts of attempts to solve puzzles, problems, etc., various relevances must be "recognized," which likewise cannot be commanded to occur. It is for this reason that, as Max Black has noted,[10] problem solving is an "art." The concept of solving is linked to the notion of luck because it is linked to the concepts of trying and of being difficult. Therefore it can be said that if one solves something, one tried and one had some good luck.

A solution may come to exist entirely by luck, of course.[11] A person need not necessarily do any trying before the solution pops up. But because luck usually occurs to those who have worked hard and therefore deserve it, a person increases the probability that he will be lucky and increases the probability that he will solve something when he tries.

Intending. In cases of solving, the intention includes both a prior intention to bring about something and an intention continuing during the course of the action to respond to each development with a view to bringing about that result. But the important point concerns what specific intention the solver must possess.

The "mental content" of any act of intending is specifically that and not something even slightly different. The intention to "shoot Smith" is precisely that, and even though Smith is his neighbor, indeed his only neighbor, his intention is not to "shoot his neighbor." No rules of substitution for expressions are permissible in the case of intentions.[12] Thus the intention to "do *X*" is not an intention to "solve" even though the person by doing *X* in point of fact solves something. Only the intention to "do *X*" is necessary in order to say that one solved a problem, provided that the state of affairs one brought about actually solved that problem. One does not need over and above an intention to "do *X*" a supplementary intention to "solve" any problem, crisis, etc. The sheep farmer who sets off to kill coyotes with the intention of keeping up his prized marksman skills intends to "do *X*" and as a result he may kill all of the coyotes in the area. And by killing all of the coyotes he may be deemed to have solved a problem he never knew he had, namely, the problem of coyotes killing his sheep. (If he knew how many sheep the coyotes had been killing, he might have agreed that he had a problem, but for various reasons he had not been paying close attention to his flock.) If this weaker condition for the application of the word "solve" were not allowed, a person could not conclude in retrospect that he had had a problem but that something he had done at the time had solved it. Nor could a person say of another person that he had solved something unless that other person could be judged to have had in his mind the specific intention to "solve."

The Concept of Solving in Other Words

The concept of solving can be operative in sentences in which the word "solving" does not appear, but no one other word or combination of words

is even close to being synonymous with it across the entire range of possible cases. Because the words and phrases discussed below may seem upon first consideration to be synonyms, the brief discussion will focus for the most part on the differences.

"*Figuring (It) Out*": The phrase "figuring out" emphasizes one kind of direct production of a solution, namely, intellectual or conceptual action. "Figuring out" is limited to intellectual solving as contrasted with solving through changing something material, social, or psychological. One can figure out the answer, where it will be noted that an answer is a verbal or intellectual entity, but figuring something out cannot physically remove the log from the traveler's path. The words "I solved" can be followed only by the names or descriptors of solvables, e.g., "I solved the riddle." But "I figured out" can be followed by either names or descriptors of solvables, e.g., "I figured out the riddle," *or* by relative pronouns which in turn are followed by one or more additional words, e.g., "I figured out why (how) it happened," and "I figured out who (what) caused it." These predicates are in effect questions. E.g., the phrase "why it happened" transforms into "Why did it happen?," and to figure out is to derive that question's answer.

It was pointed out earlier that the word "figuring" occurring without the adverb "out" is similar to "calculating." Neither one, for instance, implies that the work has been completed or that the result is correct, but both may be used in sentences in which these factors are conveyed through other means. One way to do so is to combine nominalization of the verb with the expression "needed for," as in "Not much figuring was needed for that problem."

"*Working (It) Out*": This verb-adverb phrase highlights the difficulty factor because the word "work" suggests laboring. "Work" also emphasizes the factors of trying and direct production. In the phrase "working out the answer" the direct production of the answer is emphasized, but, unlike the case with the word "solving," it is the definite article "the" which carries the factor of being right. (Contrast "working out *an* answer.") Because, as just noted, an answer is a verbal or intellectual entity, the phrase "working out the answer" is limited to the intellectual domain. But a person also can "work out the problem" and "work his way out of the difficulty" when the solving involves the tangible world. And "working out a settlement" refers to a solving or resolving which occurs only in the tangible social world. It is the factor of difficulty which serves to distinguish "working" from "figuring" in most contexts. If figuring something out is difficult, one must say so explicitly.

"*Getting the Answer*": The word "get" has been vilified by English language purists as far back as 1789, but it is useful for indicating a measure of success. In "getting the answer" one has been very successful because the answer is correct, but even in "getting an answer" one has at least been

successful in thinking or calculating something through to a conclusion, even if that conclusion may not be right. While the word "get" suggests modest success, it does not indicate the factors of direct production and being difficult. Two examples: "He got his money through inheritance" and "He got the answer off of another student's answer sheet."

"*Finding the Solution*": Finding solutions or anything else may be an effortless and lucky affair, like having light reflected from a shiny coin lying on the street strike one's eye. However, other words or factors in the larger context when used with the word "finding" may suggest that one also did the searching which led up to the finding. If the antecedent searching is implied, then the possibility of having come into possession of the solution, or of whatever is found, effortlessly will be denied. The word "finding" conveys the factors of being right and completion of any antecedent searching, but any suggestion of being difficult or of trying are contingent upon something else in the context suggesting direct production.

"*Dissolving the Problem*": Situations can cease to be problems in several ways. One way is to solve them. Another way is to dissolve them. Dissolving a problem is a matter of reassessing the situation and concluding that the claim that a problem exists in unjustified. To dissolve the problem is to sustain the opinion that a problem never did exist. Dissolving a problem is a matter of breaking the situation down intellectually into its component parts, and concluding that the component upon which the predication of being a problem was based does not exist or was misjudged.

"*Problems Evaporating*": Situations can also cease to be problems when the situations change so that they are no longer structured so as to hurt, threaten, or challenge one's curiosity. Problems evaporate on their own or because outside natural forces or other agents change the situation, but agents are not said to evaporate problems.

"*Resolving Problems*": Resolving problems is a matter of sorting out inherent elements. Mathematical problems in some cases are "resolved" when the expression is broken down into constituent elementary expressions. Social disagreements and conflicts are "resolved" when the points or elements of an agreement have been identified. The Internal Revenue Service's Tax Problem Resolution Office will resolve not to take further action if the taxpayer will resolve to pay up what he owes and will carry through on the resolution. Intrapersonal conflicts in which the person is debating with himself also are said to be resolved. For instance, "I resolved it in my own mind." He ceased to be irresolute. One can be said to "solve" some disagreements, disputes, and conflicts, but in those cases there is no suggestion of doing so through identifying mutually acceptable points. Thus it would be a very unusual context in which the statement, "I solved it in my own mind," would not sound odd. Likewise in the case of issues, one can be said to "resolve the issue," but, again, it would be a very

unusual context in which the statement, "I solved the issue," would not sound odd.

Notes

[1] See my article, "The Concept of Problem," *Educational Studies*, forthcoming.

[2] For purposes of this paper, problems will be understood to include puzzles, crimes, and anything else that can be said to be solved.

[3] To be more precise, because mathematical problems can be said to be solved by each of many people, what comes to "exist" from each instance of solving is a "token" of the solution "type," e.g., the individual student's answer "$x = 4$" is a token of the type "$x = 4$."

[4] Cf., Gilbert Ryle, *The Concept of Mind* (London: Hutchinson, 1949), pp. 130, 131, 151, 302.

[5] J. P. White, "Learning," *Proceedings of the Aristotelian Society*, supp. vol. 46 (1972), pp. 41–42.

[6] Cf., John Dewey, *How We Think* (Boston: D.C. Heath, 2nd ed., 1933), chap 7; Max Black, *Critical Thinking* (Englewood Cliffs, N.J.: Prentice-Hall, 1952), chap. 14; and Allen Newell and Herbert A. Simon, *Human Problem Solving* (Englewood Cliffs, N.J.: Prentice-Hall, 1972), pp. 73, 87–140.

[7] Cf., James G. Greeno, "Trends in the Theory of Knowledge for Problem Solving," *Problem Solving and Education*, eds. David T. Tuma and Frederick Reif (Hillsdale, N.J.: Lawrence Erlbaum Associates, Publishers, 1980), pp. 10–13. See the article cited in footnote 1 for a discussion of minimal conditions for problems.

[8] This idea is not usually expressed directly but instead takes the form of placing problem solving in the context of inquiry. Black for example in *Critical Thinking* (p. 272) says, "A situation in which an answer is required to a question . . . will be called a problem-solving situation."

[9] R. M. Yerkes induced earthworms to "solve problems," according to Michael Polanyi, *Personal Knowledge* (London: Routledge & Kegan Paul, 1958), p. 122.

[10] Black, *Critical Thinking*, p. 274.

[11] Peter Heath, "Trying and Attempting," *Proceedings of the Aristotelian Society*, supp. vol. 45 (1971), p. 197.

[12] Cf., *Encyclopedia of Philosophy*. 1967 ed., s.v. "Intention," by Bruce Aune, p. 199.

Book Review Essay

Naturalized Epistemology and Education Practice: A Critical Review of Hugh Petrie's *The Dilemma of Enquiry and Learning*

Chicago: University of Chicago Press, 1982
$20.00

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There have been few technically sophisticated book-length publications in philosophy of education in the present century. Since the work of John Dewey, only R. S. Peters, Israel Scheffler, Michael Martin and D. W. Hamlyn have produced original texts which make significant advances in the long neglected field of philosophy of education.[1]

Philosophy of education is a neglected field of study because the practitioners in the field are few in number and because the work produced in the field has not found much of an audience. Professional educationists are so busy making education into either a scientific business or a business-like science that they have failed to recognize that any full-fledged academic enterprise needs continued philosophical examination and development. Without a sound philosophical basis education cannot hope to develop as a discipline on a par with physics, history, mathematics or any other commonly recognized discipline. On the other hand, professional philosophers have ignored work in philosophy of education because they generally regard the activities of educational philosophers as overly speculative and lacking in rigor.

While philosophy of education has suffered an uneventful past in recent years, two developments promise a more exciting future. First, recent work in philosophy and logic for children by Matthew Lipman, Bob Ennis, Pat Suppes, Gerald Reagan, Gareth Mathews and others, has brought philoso-

phy again to the attention of educationists and classroom teachers. Second, the publication of Hugh Petrie's *The Dilemma of Enquiry and Learning* should re-introduce philosophers of education to the main currents of philosophy of science, epistemology and artificial intelligence while at the same time introducing professional philosophers to real and important prescriptions for pedagogical practice which follow from the technical accomplishments of those same areas of academic philosophy.

In *The Dilemma of Enquiry and Learning*, Professor Petrie (now dean of the School of Education, SUNY at Buffalo) constructs a Deweyian child-centered approach to learning theory and argues that learning theory is at the heart of educational epistemology—if not at the heart of epistemology in general. Specifically, Petrie argues that, "If education is a process of bringing students to behave as we do rather than merely a part of applied epistemology, ways of knowing are understandable as the result of education. The processes of learning the standard examples and the ways of behaving in any field are the processes that bring our theories and representational schemes into contact with the world. *Education grounds epistemology*. [italics my own] (pp. 63–64)." In declaring that "Education grounds epistemology" Petrie makes brutally plain an idea that has been repeatedly hinted at by authors as diverse as Wittgenstein, Popper, Kuhn, Feyerabend, Lakatos and even Quine. Petrie's declaration makes it clear that educational theorists and epistemologists have so much in common that neither can any longer do productive work without becoming cognizant of the leading ideas in the other's domain.

Educational theorists can no longer afford to banter about ideas regarding the most effective way to get students to say or do "*X*" without determining first if saying or doing "*X*" should count as knowledge or what student attitudes should accompany or be directed toward the elements of knowledge. Similarly, epistemologists can no longer afford to "analyze" and make recommendations regarding what should count as knowledge without considering in detail the current practice of education at all levels and in all forms. This is because there is no ultimate rationale for knowledge or no epistemic logic with demonstratively evident primitive terms or notions. Petrie's demand that epistemologists study the practice of education requires of them that they engage in, directly or indirectly, something typically foreign to professional philosophers, namely, the empirical study of a social enterprise. Whereas in the past many have insisted that the distinction between scientific and philosophic matters is one demarcating problems that can be solved empirically from those that are inaccessible to such techniques,[2] Petrie argues that such distinctions frustrate progress in both epistemology and education.

A famous dictum of John Dewey's is that "Philosophy is the general theory of education." Now without disagreeing with Dewey, Petrie adds

that educational *practice* must similarly be thought of as the foundation of epistemic theory. Where Dewey seemed to argue that epistemic concerns set the stage for the fruitful study of learning theory, Petrie argues that learning practices set the stage for the fruitful study of more general epistemic concerns. Specifically, Petrie declares, "The grounding of epistemology is learning (p. 56)." In either case, both Dewey and Petrie share the same central concern, namely, how can we most effectively address the problem of how any individual Y comes to know X.

As Petrie notes, the problem of determining how Y can come to know X dates back at least to Plato's *Meno*. The solution to the problem has so perplexed generations of philosophers that some now regard the problem as a paradoxical dilemma. In the Meno, Plato, through the character of Socrates, has a slave boy respond to a sequence of questions. At the end of the sequence the slave boy arrives at the construction of a geometric proof. The dilemma suggested by the Meno is how can a person arrive at new knowledge simply by responding to some questions. Plato thought that the slave boy's performance shows that humans do not gain new knowledge but rather recall knowledge to which they already have access. Critics of Plato have since pointed out that the process of questioning employed by Socrates in the Meno is significant. Socrates does not ask the slave boy a random assortment of related questions, but rather asks each question in a sequence that lays bare the logical structure of a line of inquiry. Consequently, the slave boy's performance is not quite as remarkable as Plato leads us to believe. Nevertheless, the fact that a particular sequence of questions leads the slave boy to a new bit of information remains problematic. For example, how are we to account for the informativeness of the slave boy's response to each successive question unless we attribute to the boy some prior understanding of logic and the nature of inquiry? Thus, many philosophers have concluded that understanding of a process of inquiry is as much an element of knowledge as recognizing when a process of inquiry has been successfully completed.[3] Consequently, for any person, X, to participate in a process of inquiry necessitates that X have a prior knowledge at least of that form of inquiry. Thus, all new knowledge is constructed out of prior knowledge in addition perhaps to the input of the individual's experiential domain.

There are at least two major problems with this conclusion, however. First, since human beings, although members of the same species, come to count different propositions as elements of knowledge, depending upon the experiences which they share or do not share in common, no one can deny that experience is a determinant of what any culture or social group will agree to recognize as knowledge. Second, since in the absence of relevant experience people do not acquire knowledge, old or new, experience seems to be an undeniable determinant in the genesis of knowledge. Thus, the dilemma posed by the Meno is that on the one hand, it seems the acquisition

of knowledge always requires prior knowledge and yet a person's first element of knowledge must develop without the benefit of any other knowledge, hence, its genesis must be found in some experience. On the other hand, for any experience to be recognizable as relevant to some knowledge claim necessarily presupposes that the knowing agent has some knowledge of what experience is relevant to such a claim within that particular context. Plato attempts to avoid the apparent paradox by postulating that people simply have direct perceptual access to the forms which constitute knowledge and, as mentioned above, coming to know X is just a matter of remembering the forms of which the present experience is an instance. Since there is no empirical evidence that a domain of ideal forms exists there are innumerable problems involved with distinguishing "remembering events" earlier in our present life and events when we each participated in the Platonic demiurge, most philosophers have found Plato's solution no more appealing than solutions that leave one stranded on either horn of the dilemma.

Petrie thinks that he has found a solution which neither impales one on a horn of the dilemma or leaves one lost in the murk of Platonic mysticism. For Petrie, the solution to the dilemma is through a naturalized epistemology. The term naturalized epistemology originates with Professor W. V. O. Quine. Quine recognized that epistemic problems such as that arising out of the *Meno* occur only if one is already committed to a realist or strict idealist metaphysic. Since we have no good reason for beginning with such a metaphysic Quine suggests that we begin with what we have. What we have is a body of knowledge (explanatory heuristics) generated by the various social and physiological sciences and a set of inferential routines meticulously detailed by philosophers and logicians. With such conceptual apparatus as a start Quine believes that we construct a way of looking at the world that is successful (and thus should count as knowledge) to the extent that most of our predictions and expectations about the world are realized in fact.[4] Quine's arguments in favor of a naturalized epistemology have been shared in some form or other by most of his former colleagues at Harvard including Kuhn, Goodman and even the slightly prodigal son Hilary Putnam. The attempt to drive a wedge between realism and idealism by arguing for a naturalized epistemology can be attributed to what may appropriately be called the Harvard School of Thought in Epistemology. With intellectual roots in both American Pragmatism and Logical Positivism the quest for a naturalized epistemology now attracts more attention in philosophic journals than any other epistemic matter.

Petrie shares in the Harvard School's convictions that further productive work in epistemology depends in large part upon the development of a comprehensive and consistent naturalized epistemology. He thinks that the necessary marriage between empirical and philosophic studies can best be

achieved by adopting the principles of control theory as a paradigm for investigating human processes of cogitation and the subsequent development of knowledge. Some of the advantages to be derived from developing a control theory approach to human cogitation are that it would allow us to make sense of the goal directedness of human action. Petrie makes it clear that he agrees with R. S. Peters' persistent criticism of behavioral psychology or any other empirical study of human action which ignores the ostensive goal-directed element which is so evident in most, if not all, human activity. Petrie in fact would go further and argue that *all* human behavior is goal-directed. For example, in contradistinction to Petrie's well known distinction between normative and descriptive rules for characterizing human behavior, Petrie argues, convincingly, that such a distinction is illusory. To account for human action in a way that is accessible to empirical investigation, one must explain the distinctive characteristics of both normative and descriptive rules of human action. Seeing no such account on the immediate intellectual horizons Petrie argues that all rules of human action are both descriptive and normative. They are descriptive to the extent that they describe the workings of physical entities and they are normative to the extent that those same rules prescribe the patterns we humans think *should* characterize routinely occurring elements of our behavior. Any element of behavior that cannot be subsumed under some set of presently constructed rules, lies beyond present power of scientific or otherwise normative explanation. Thus, one can say that for Petrie all rules of human behavior are normative for they represent a human demand that nature occur in patterns regulated by our own self-designed norms. On the other hand, we can claim that rules of behavior are descriptive only to the extent that we can reasonably hope that our rules are somehow a reflection of physical routines actually operative in nature. By thus doing away with the distinction between normative and descriptive rules and incorporating the empirically important characteristics of each into a single notion of rules, Petrie believes he has shown how the heuristical devices of control system theory can be effectively employed in the study of human action.

By adopting a control theory approach to human behavior Petrie believes he has a paradigm for accommodating all human action. Unlike earlier psychological paradigms, control theory focuses on the function of rules as determinants of human action and allows goals to be *causes* of human action. Traditionally, psychologists and many philosophers have been troubled by any model of human action that allows anything like a future state of affairs to serve as a cause of present behavior. Such models seemed to smack of an element of backward causation. Since there is absolutely no evidence of backward causation (even Libet's work failed to show any evidence of backward causation)[5], any theory that even remotely hinted at it was regarded as highly suspicious. However, as recent work in computer science

and artificial intelligence has shown, goal talk does not necessarily commit one to any physical notion of backward causation and the function of goals as significant in directing a mechanistic system has been repeatedly demonstrated through the development of computer technology and sophisticated software programming. Petrie is surely right in recommending that there is much to be gained from adopting a control theory approach to the study of human action.

What is not clear from Petrie's arguments in the extent to which a control system theory paradigm of human action can account for all that Petrie says it can. Petrie goes beyond arguing that control system theory can serve as a useful heuristic in the study of human action. By coupling control system theory with an evolutionary account of learning theory, Petrie believes he has solved the Meno dilemma. However, if he has solved the Meno dilemma it has been at the cost of his anti-realist position. Recall that to solve the *Meno* dilemma one must answer the general question how any person Y can come to know X. To answer this question requires not merely a new heuristic device, but a willingness to make explicit a number of bold ontological claims about learning, knowing, truth, acting and human nature. Since Petrie does claim to have solved the *Meno* dilemma, his arguments must be regarded as ontologically biased. Now, on the one hand, for a philosophical argument to admit of certain ontological biases is generally not uncommon. Philosophers and scientists both routinely construct arguments and theories which are ontologically biased. However, when such biases are about the world as it is, and not about conceptual artifacts such as the form or nature of arguments, such biases require acceptance of a scientific realist epistemology and metaphysic. What is disturbing about Petrie's arguments is that they entail numerous ontological claims which culminate in the rejection of scientific realism and its central tenet, namely, the correspondence theory of truth.

Specifically, Petrie seems committed to the following ontological claims: First, (P1) control system theory can successfully model human cognitive activity. Second, (P2) human knowledge can never reveal the essence of something in itself, in other words, there is no necessary relationship between truth and knowledge claims that humans can identify. Third, (P3) what counts as knowledge among members of our species evolves simultaneously with the evolutionary development of our physiology in interaction with the rest of our environment.

In addition to these three, Petrie makes other ontological claims and at times becomes quite careless in what he blindly asserts. For example, in describing the nature of worldly presentations to the enquiring student mind, Petrie simply declares, "Because of the underlying robust nodes of stability that ensure that countable objects do not suddenly split or coalesce, we can be fairly certain that the student has got it when his or her activity is as ours."

(p. 147) In less technical terms, Petrie is claiming here that there are parts of the world which stimulate the senses of each person similarly and in such a routine way that through generations of human evolution we have developed common patterns of thinking about classes of events (for example, identifying similar events and experiences as well as associating such items by means of arithmetical procedures). Obviously, in this passage Petrie has relied upon the assumption of John Stuart Mill that phenomena behave in accord with regular patterns, and hence this would account for the similarity that exists among our collective judgments. Thus, Petrie assumes that worldly events that appear the same behave the same; and, human beings who behave similarly have presumably experienced mental events that are likewise similar. Unfortunately, this is not the sort of assumption that can be tolerated in an argument designed to explain the relationship between objects of knowledge claims and knowledge claims themselves. The similarity of human perception and actual worldly events simply posits what was to be inferred from Petrie's efforts at argument on these matters.

While one could easily note many other occasions in which Petrie's ontological claims occur in a careless and insensitive manner, it is more important at this point to examine two characteristic features of Petrie's thinking. First, although Petrie endorses the anti-realist and conventionalist arguments of Kuhn, Feyerbend and Wittgenstein respectively, Petrie talks as one who simply does not appreciate the extensive consequences of the anti-realist and conventionalist positions. One simply cannot maintain an anti-realist position, promote epistemic conventionalism and argue against conceptual relativity on the basis of a few select unyielding assumptions. Second, commitment to any one of the three major ontological principles mentioned above precludes commitment to one or both of the other two principles. For example, Petrie claims both that control system theory can successfully model human cognitive activity (P1) and that human knowledge can never reveal the essence of a thing-in-itself, or simply, truth (P2). If human knowledge cannot reveal truth then how can Petrie claim that control system theory can successfully model something about which we have, at best, incomplete information? We could only know that one thing successfully models another if we know enough about the two items so as to conclude that they do appear relevantly similar. Yet on Petrie's terms we can never know enough about actual cognitive activity or any other worldly event to know that it is or is not successfully modeled by control system theory. Petrie, of course, would deny this charge claiming that his " . . . evolutionary view of observational systems gives reason to suppose that the stabilities of the world around which such observational systems are organized are stable for a whole host of basic activities that humans pursue [such as scientific theorizing]. Thus, even though observational systems associated with different paradigms and language games may describe these

stabilities in different ways, the contours of these descriptions largely coincides (p. 141–2) . . .'' Such a response is not terribly informative for it is admittedly a supposition and one whose ''reasonableness'' rests solely on the reader's willingness to have faith in Petrie's other assumptions about the relationship between events of nature and human cognition. It appears that Petrie, setting epistemic doubts aside, is quite comfortable with blunt ontological assertions such as (to paraphrase Gertrude Stein) a cognition is a cognition is a cognition. But we cannot allow Petrie the luxury of such ontological speculation for it is he who rejects scientific realism and hence all forms of correspondence theory of truth while persisting in his claim that his position is in fact an adequate solution to the *Meno* dilemma.

In a similar view, Petrie claims that (P2) human knowledge can never reveal truth (P49) and that (P3) what counts as knowledge is a product of our conventionalist response to the evolutionary changes in our own species-specific physiology and the environment in general (p. 144). Now there is no problem with Petrie's admission that we can never know truth, but, when he goes further to reject any form of epistemic relativism one wonders what Petrie wants to count as knowledge. For example, in discussing what counts as a legitimate knowledge claim, Petrie admits, ''I accept the claim that for anything to be known in general, it must be justified by appropriate criteria for enquiry in that field. However, for any *individual* to know something, that person must understand it in his or her own terms, in terms of the level of rules he or she can grasp. (p. 157)'' Petrie seems to confuse knowing here with something else. If it is the case that for some proposition X to count as an element of knowledge, X must satisfy certain ''standards of reasonableness'' then Petrie seems committed to a version of the realist endorsement of a correspondence theory of truth. Requiring further that for any individual to know X the individual must also understand the proposition in his or her own terms merely recognizes the fact that the standard belief condition (i.e., Y *truly* believes X) must be fulfilled before we can legitimately say that Y knows X. Obviously, no one can be said to know X unless that person recognizes that proposition X conflicts with no other proposition simultaneously regarded as a justifiable epistemic claim. This latter condition of understanding or belief does nothing however, to lessen the impact of Petrie's standards of reasonableness requirement or his earlier claims that the contours of ''. . . varying descriptions largely coincide as we act in the world, and so the observational representational systems possess a relative stability and ''robustness'' across paradigms and conceptual schemes (p. 142).'' Thus, Petrie seems as committed to a correspondence theory of truth as he is to a conventionalist theory of truth. Apparently, sensitive to his predicament Petrie at one point attempts to clarify matters by claiming that ''Truth is not expert opinion, but an account of the operations of a variation and selective retention model in the genesis, growth, and change of knowl-

edge in that field (p. 153)." This ploy which attempts to define truth as a meta-theory of knowledge does no more than temporarily distract the reader from inquiring further into Petrie's conventionalist/realist bind. As near as I can tell Petrie never does work his way out of this difficulty and after completing the book the reader is still left in the dark about whether Petrie is a conventionalist, a realist or perhaps just confused.

Finally, Petrie's claim (P1) that control system theory can successfully model human cognitive activity is made suspect by his claim (P3) that what counts as knowledge among members of our species evolves simultaneously with the evolutionary development of our physiology in its interaction with the rest of our environment. In the first place (P3) makes it uncertain that we can have any epistemic assurance that (P1) is true since truth claims are no more than a consequence of our and the environment's evolutionary development. Since we have no epistemically secure reason for concluding that evolutionary processes occur in any way other than by chance occurrences (given an initial set of conditions—which are again beyond our epistemic reach—evolutionary consequences simply play themselves out like so many toppling dominoes) and thus any claims we have about the world are simply a function of those same chance occurrences and not a function of infallible knowing minds. Secondly, if it is true that control system theory can successfully model human cognitive activity, (P3) forces us to ask "which cognitive activity is the author referring to?" If the response is human cognitive activity as it existed just prior to the development of control system theory as a research paradigm, then the evolutionary claims of (P3) force us to doubt the efficiency of control system theory as a paradigm of present cognitive activity and more so cognitive activity as it might occur in the future. Not only will human physiology and our environment continue to evolve but on Petrie's own grounds, accommodation of control system theory into our repertoires of knowledge claims will itself make us creatures different from those that served so well as subjects of the original theory!

While I remain sympathetic to Petrie's acknowledgement of control system theory as a research paradigm for naturalized epistemic studies, I do not think that he has shown how such a research paradigm can in fact solve the *Meno* dilemma. Petrie has certainly made a heroic effort in this direction but I suspect the *Meno* dilemma will continue to be with us for a long time to come.

Although Petrie's book is clearly a technical work in philosophy of education he has not ignored the consequences of his arguments for practicing teachers. At or near the end of nearly every chapter Petrie draws out implications of his work for classroom practice. Perhaps the two most significant of these are his claims that teachers ought to give more emphasis to how students conceptualize a task rather than merely observe brute

outcomes, and, his justification for such traditional practices as homework, requiring students to do routine laboratory work, lectures and even memorization exercises. There is not time to go into Petrie's thoughts on each of these items in any detail, so let it suffice to say that Petrie will cause practicing teachers to reconsider why so many of their routine practices are in fact justifiable and to reconsider their commitment to behavioristically oriented learning theories.

The Dilemma of Enquiry and Learning is clearly not meant for undergraduate students. It is instead a serious attempt to engage graduate students and scholars (in both philosophy and education) in a systematic study of the impact recent developments in educational practice, epistemology and philosophy of science can and should have on one another. Petrie's book is the most comprehensive work reflective of new directions pursued by scholars in both education and philosophy, respectively. There are times when from the educator's point of view Petrie's references to philosophy of science will seem like unnecessary digressions and similarly from the philosopher's point of view Petrie's reference to current educational practice and theory will seem equally unnecessary. However, the fact of the matter is that since Petrie is writing for both philosopher and educator he would be remiss if he did not draw the attention of one to the current concern of the other.

The most significant fault I find with *The Dilemma of Enquiry and Learning* is Petrie's occasional obfuscation of an issue by employing unwieldy and technical jargon to to explicate an otherwise obvious issue. Also, Petrie spends too much time praising Piaget only to dismiss the man's ideas while borrowing a few of his terms. If Petrie has any heroes, Piaget is not one of them. Instead, I suspect one can find the genesis of many of Petrie's ideas by perusing the works of the philosophers W. V. O. Quine as well as Stephen Toulmin and the psychologist D. T. Campbell.

On the positive side, Petrie draws the attention of educators to relevant research in cognitive psychology, control system theory and the Harvard School of epistemological revisionism. Philosophers, on the other hand, are made to consider carefully the consequences of educational practice for epistemic theorizing as well as the practical impact which follows naturally from current philosophical theorizing. Finally, while Petrie fails to solve the *Meno* dilemma, I suspect his efforts are in the right direction. Future researchers in epistemology, psychology and education will benefit greatly by familiarizing themselves with Petrie's successes as well as his failures. Perhaps the greatest compliment I can extend to Petrie's book is the fact that I have used his book in a graduate class, and given the reaction of students to the novel arguments presented, I intend to continue using the book for some time to come.

NOTES

[1] See for example R. S. Peters, *Ethics and Education* (New York: Scott Foresman and Company, 1967); I. Scheffler, *The Language of Education* (Springfield, Ill., Thomas Publishing Co., 1960); D. W. Hamlyn, *Experience and the Growth of Understanding*, (New York: Routledge & Kegan Paul Ltd., 1978); Michael Martin, *Concepts of Science Education* (New York: Scott Foresman and Company, 1970).

[2] See for example Karl Popper, *The Logic of Scientific Discovery* (New York: Harper and Row Publishers, 1959), pp. 30–34.

[3] See for example, D. W. Hamlyn, *Experience and the Growth of Understanding*, pp. 89–90.

[4] See for example, B. Libet, "Neuronal vs. Subjective Timing for a Conscious Sensory Experience" in R. Buser (ed.), *Cerebral Correlates of Conscious Experience*, INSERM Symposium No. 6, Elsevier, North Holland: Biomedical Press, 1978) pp. 69–82. See also C. Mortensen, Neurophysiology and Experiences," *Australasian Journal of Philosophy*, Vol. 58, No. 3, September, 1980), pp. 250–64.

[5] See for example Paul A. Wagner, "Rationality, Conceptual Change and Philosophy of Education," *Scientia*, (Vol. 116, 1981), pp. 669–80. See also W. H. Newton-Smith, *The Rationality of Science*, (Boston: Routledge and Kegan Paul Ltd., 1981).

Book Reviews

Zhenshchina i Rossia: Almanakh Zhenshchinam O Zhenshchinakh (Trans: Woman and Russia: An Almanac by Women About Women)

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Paris: Des Femmes, 1980
pp. 144.

Woman and Russia is the first feminist journal to emerge on the Soviet scene since Stalin's rise to power. Edited in Leningrad and intended to be a forum for frank discussion of women's issues, this samizdat work met a premature demise when the KGB confiscated most of the typewritten copies and exiled four of its editors. One copy, however, made its way to Paris through underground channels and was immediately published in Russian and French by a well-known feminist press, *Des Femmes*.

Since the beginning of 1980, the first edition of the journal has been published in full or in part in France, Norway, Sweden, Brazil, Japan, England, and West Germany.* Most of its editors are former members of Leningrad's dissident intellectual community. Among them are Tatiana Mamonova, an artist, writer and socialist who has been exploring the notion of feminism for many years; Tatiana Goricheva, a zealous advocate of Christianity; Ioulia Voznesenskaya, a well-known literary figure of nonconformist circles who has been imprisoned for attempting to circulate her work; and Natalya Malakhovskaya, a philosopher, novelist, and essayist. Though they now live in the West and have been stripped of Soviet citizenship, these four women continue to struggle for the same cause that resulted in their expulsion—the improved condition and status of Soviet women—but their efforts have taken distinctively different directions. Due to religious and ideological conflicts, the group has split into two factions. The first, representing a secular, socialist approach to feminism, is led by Mamonova who has toured Europe, the United States, Canada, and Japan giving lectures on the status of Soviet women and using the Western media to illuminate the plight of several Soviet feminists arrested for their efforts to continue publication of *Woman and Russia* after Mamonova's exile. The second faction, consisting of Goricheva, Malakhovskaya, Voznesenskaya and their followers, adheres to a religious approach to the "woman ques-

* The English language edition of *Woman and Russia* has been published by Sheba Feminist Press, London, 1980.

tion,'' viewing the Virgin Mary, in particular, as the embodiment of eternal and perfect femaleness. This group calls itself ''Maria'' and has recently published its own journal bearing the same name.

The group's crisis of ideology which emerged after their exile and the publication of their almanac, is apparent in latent form in *Woman and Russia*. The publication contains a curious mixture of articles that do not combine to render a homogeneous theoretical approach to feminism. Yet, as is suggested in the introduction to an English language translation of the journal, perhaps the editors were more concerned with ''framing the questions than with drawing up clear-cut answers.'' Numerous questions, indeed, are posed by the authors ranging from concern about deteriorating conditions in abortion clinics to treatment of female inmates in Soviet prisons. The first article entitled ''These Solid Patriarchal Foundations'' harshly criticizes the Soviet system and its men for perpetuating and aggravating sexism. It charges that women are still forced to exist under a ''slave mentality'' as they are expected to contribute their energies to the work force as well as to shoulder the entire burden of domestic responsibility, that their gifts for creative expression are crushed, and that the patriarchy fosters misogyny even among women.

The bitterness of this first article is followed by an almost euphoric homage to *Bozhya Mater* (Mother of God) by Goricheva, who later became the spokesperson for the ''Club Maria.'' This article, ''Rejoice, Redemption From the Tears of Eve,'' in part recounts the former waywardness of its author resulting from the influence of the Soviet state on her education and socialization and its particular attempt to cultivate what she calls ''homo *sovieticus*,'' a one-dimensional, undifferentiated, sexless man. Goricheva then describes her religious transformation and discusses the relationship between the Virgin Mary and contemporary women, stressing the need for women to understand the inherent beauty of the traditional female role.

If Goricheva's article ends on a positive, yet somehow dubious, note, it is quickly succeeded by testimonies of a crueller fate. ''Human Birth'' by R. Batlova provides a horrifying account of a woman's traumatic experience in a hospital delivery room. While waiting for her own time to arrive, she witnesses the frustration and humiliation of others in labor around her who must suffer the consequences of a facility short of staff, equipment, medication, space, and patience. This and the following article, ''The Other Side of the Medical'' (referring to the ''Mother Heroine'' medals awarded to Soviet women with ten or more children) not only criticize the Soviet medical system, but the pervasive sentiment that a woman must experience the ''bliss'' of motherhood in order to enjoy full womanhood. Subsequent articles focus on abortion, the fate a woman's children must suffer in over-crowded and under-staffed daycare centers and youth camps, the abuse women tolerate in prisons, and the development of the matriarchal family

due to men's virtual absence in the realm of domestic life as a result of widespread alcoholism and rejection of paternal responsibility. *Woman and Russia* also contains poetry, short stories, and an appeal by the authors for solidarity and literary contributions.

Though at times somewhat crude and ambiguous in its analysis of woman's social, economic, and political dilemma, *Woman and Russia* nevertheless constitutes a unique specimen of social history. The brand of feminism the authors so vividly portray is not a by-product of Western feminism, thanks to the relative inaccessibility of Western literature, nor of Soviet socialism, for its contradictions for Soviet women are apparent even to the least politically sophisticated of them. Rather, this feminism resembles earlier women's liberation struggles which were deprived of precedent, a developed ideology, and a viable communications network. Consequently, the contents of the piece in its simplicity may baffle and frustrate the politically experienced reader at times and incline us toward the role of advisor. This publication, however, must be regarded as a noteworthy document, for it comes to us first-hand and uncensored from some of the most articulate and perceptive victims of Soviet sexism. Whether of commiseration, disagreement, shock, or frustration, *Woman and Russia*, of its own controversial power, invites response from its readers and compels us to contemplate the phenomenon of feminism and Soviet socialism from a new perspective.

Predicting the Behavior of the Educational System

Thomas F. Green, with D. P. Ericson & R. H. Seidman
Syracuse, NY: Syracuse University Press, 1980
xviii + 200 pp., $15.95

Reviewed by:

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Back in the 1960s there was a lot of talk about "The System." In the spring of 1970, students at Syracuse University—angered by the invasion of Cambodia and the shootings at Kent State and encouraged by the notorious agent provocateur "Tommy the Traveller"—firebombed the campus book store, smashed windows in campus buildings, and managed to bring the campus to a grinding halt for several days. The night of the firebombing and window-breaking, I was invited to accompany a leader of the student Leftists and a leader of the student Rightists on a kind of walking tour of the campus. As the three of us saw flames erupt and heard windows shatter, I was surprised to find Mr. Left and Mr. Right in substantial agreement. They agreed that The System was the issue. They agreed that no one could be

neutral. And they matter-of-factly agreed that before the night was over they might have to murder one another. Everybody was shouting, "Which side are you on?"

Meanwhile, far from the maddened crowd at his campus, Professor Thomas F. Green of Syracuse was beginning work on a book that would address the issue that provoked so many inflamed passions and vague slogans: the nature of the (educational) system. After more than ten years of hard work, Green has finally published his book. *Predicting the Behavior of the Educational System* (henceforth "*PBES*") could not contrast more with the rhetoric of the late 60s. Where the language of the late 60s was vague and emotional, *PBES* is rigorously logical and coolly ironic. And, appropriate to the 1980s, his conclusions are depressing as hell.

This is a difficult book. Green's ironic viewpoint makes it difficult for the reader to identify what the author is for or against. Most readers of *PBES* will be unfamiliar with its central strategy: the construction of a Transcendental Argument to establish the necessary characteristics of *any* educational system, followed by the use of the set of characteristics to organize a vast array of historical statistics about school attendance and diplomas granted, and completed by attempts to show overall patterns of change in the value of educational credentials. Chapters in the book deal with both static and dynamic elements of educational systems. *PBES* contains discussions of: the control of the system, distributions of educational benefits, hierarchies of both formal structure and status, the laws of change in educational systems, and the effectiveness of a variety of policy arguments in generating support for the system. Three appendices supply the reader with the historical statistics that Green's work attempts to account for, a defense of the Aristotelian "Method of Practical Rationality" that enables Green to describe the logic of the system, and some empirical evidence for what is variously called "the principle of the moving target" or "the principle of shifting benefits and liabilities." Historians should not overlook the two brief paragraphs on page 178 entitled "A Note on Dating the System."

Green's academic training is in philosophy. The reader with some sophistication in that field will probably recognize a Transcendental Argument. But since *PBES* does not contain any explicit discussion of that strategy, let me offer a brief account as a basis for my critique of the book. The notion of a Transcendental Argument (henceforth "TA") has been explicated in a recent paper by Jay F. Rosenberg (1975: 620–22). According to Rosenberg, a TA is a form of means-end reasoning wherein the end is some new knowledge—for example, the characteristics of the educational system. The philosopher who constructs a TA must then show what categories must be included in *any* conceptual framework that will enable us to find the information we seek. A successful TA will argue that in order to know about X, we need a conceptual framework which contains categories A, B,

and C. The advocate of the TA can then argue that Framework 1 is not useful for research on X because it lacks category A, Framework 2 is not useful for research on X because it lacks category B, etc. And the advocate of the TA can also urge that Framework 7 *is* the best one for research because it lacks *none* of the necessary elements. A rather serious shortcoming of this volume is that Green does not use his TA to review the adequacy of previous attempts to describe the educational system. In Chapters 1 through 4, Green constructs his TA. Then, in Chapters 6 through 8, Green combines the categories identified by the TA with the method of Practical Rationality to account for data on the educational system of the United States.

For Green, any research on educational systems must include the following categories:

I. Primary Elements
   A. Schools
   B. A medium of exchange
   C. A principle of sequence
II. Derivative Elements
   A. Size
   B. A system of control
   C. A distribution of goods

Now, if Green's TA is to be successful, the characteristics that he identifies must be free of any cultural bias. His framework must enable the researcher to examine the educational practices of any nation and express some hypothesis about the existence of an educational system. It cannot rule out *a priori* the possibility of the existence of an educational system in, for example, a Communist country. It must also enable the historian to determine when an educational system appears in a nation's history and what counts as evidence for the emergence of an educational system. Finally, a framework for the study of educational systems must enable the social scientist to determine when the educational system is independent from other social institutions, when the educational system is dominated by other social institutions, and when there might be educational institutions but no educational system. Green has something to say about all of these questions, of course. But sometimes I am just not sure what he is saying about them. Should you take the time to read *PBES*, do let me know how you would answer the following three questions:

(1) In his discussion of the control of the educational system (p. 22), Green holds that its control depends, in part, on the "compelling interests of the state." One of these "compelling interests' is that "each individual attain economic independence" so that children do not grow up to be "on the dole." Is Green open to the charge of ethnocentrism here? Would the notion of "on the dole" have any meaning outside the context of twentieth-

century welfare capitalism? Would "economic independence" be seen as a "compelling state interest" in the Kremlin? (For this point, I am indebted to Professor Baird Brock of Central Missouri State University.)

(2) Green challenges the historians' view that compulsory school attendance legislation has made the educational system universal. He holds that the system becomes compulsory because it is made universal (p. 114). But if the system did not exist prior to 1910, how would Green account for the existence of compulsory *education* laws as early as 1642 and compulsory *schooling* laws as early as 1852 (see p. 178)?

(3) Green rejects the view that the schools can change society. But he also asserts that the educational system has characteristics that cannot be changed (pp. 112–13). And he holds that within the educational system, the education that the rich provide for their sons will always be regarded as the best education (pp. 120–24). Finally, he admits that the educational system is part of the nation's economy (p. 160). So, since he has little to say about the balance of influence between the educational system and society, it seems to me that PBES can be easily caricatured as a "supply-side theory of education." Indeed, the section on pages 164–68 entitled "An Immodest Proposal to Reduce the System" *sounds like* the sort of thing we hear from Milton Friedman and the Reagan Administration. Would Green be comfortable with that interpretation?

While chapters 1 through 4 address the general characteristics of any educational system and 6 through 8 relate the necessary characteristics of an educational system to specific data on the educational system of the United States, chapter 5 is something of an anomaly. It contains some witty remarks about the peculiarities of status attainment in higher education and then shifts to some introductory remarks to the material in chapters 6 through 8. In both chapter 5 and the Preface we see Green at his most cryptic. Both of those sections seem to me to obscure the necessary difference between the case for the TA in terms of the necessary categories for the description of the educational system and the defense of the TA in terms of its use to evaluate conceptual frameworks for research on school attendance, the granting of diplomas, the value of diplomas, etc. Having made his case for the necessary categories for the description of an educational system in chapters 1 through 4, the reader would have been enlightened by a chapter discussing a book like Philip H. Coombs' *The World Educational Crisis: A Systems Analysis* (1968) and exhibiting the shortcomings of Coombs' more standard analysis of educational systems. Then Green's plunge into the analysis of the historical data using the Method of Practical Rationality might have been easier to comprehend. Unfortunately, Green seems to think that *PBES* was conceived without any ancestry. In the Preface, he contrasts his ironic view with the naive romanticism of the 1960s. In chapter 5, he makes some allusions to David Riesman's "snakelike procession" metaphor in *Constraint and Vari-*

ety in American Education (1957). And in chapter 9, he offers some discussion of James E. McClellan's definition of "system": in *Toward an Effective Critique of American Education* (1968). Since I believe that both a Transcendental Argument and ironic rhetoric depend for their success on contrast with their (presumably inadequate) historical ancestors, I shall conclude with some comments on the nature of an ironic viewpoint, some discussion of Green's use of Riesman's work, and some rather metaphorical speculations on the ontology of educational systems.

The Ironic View. I have already pointed out that *PBES* grew out of Green's skeptical reaction to the romantic optimism of the 1960s. He reports in the preface (pp. xiv–xv) that his study of the educational system heightened his sense of irony. Certainly the naive educational reformer who believes that social problems could be solved easily if only everyone had a high school diploma will be brought back to reality by Green's "law of Zero Correlation": if *everyone* attains a high school diploma, then that attainment "can have no bearing whatsoever upon any social differences that may subsequently arise within the population" (p. 90). And certainly the hard-headed school administrator who is still responding to the complaints of young blacks with the slogan 'To get a good job, get a good education' would do well to become familiar with Green's "Law of Last Entry": " . . . no society has been able to expand its total educational enterprise to include lower status groups *in proportion to their numbers in the population* until the system is 'saturated' by the upper and middle status groups" (p. 108, emphasis in original). Finally, the poor young status seeker who has raised himself by his bootstraps to obtain his high school diploma is likely to discover that his diploma no longer guarantees him the job that he expected. In the 1980s, the diploma has become necessary but *not sufficient* to obtain that job. Green calls this the "principle of the moving target" (p. 111). While Green the Ironist may be fond of telling us that things are not what they seem to be, I wonder what message he would have for the poor young status seeker—or the unemployed Ph.D.—as they stand in the unemployment line. I do not mean to be suggesting that Green should be offering simplistic solutions to these problems. But, have the naive educational reformer, the hard-headed school administrator, and the poor young status seeker invented their false beliefs all by themselves? Or have they absorbed the ideology of some defunct educational statesman (*PBES*, pp. 156–57)? Northrop Frye has pointed out that irony is best understood as a parody of romance (Frye, 1957: 223–24). And Frye would also remind us that "In every age the ruling social or intellectual class tends to portray its ideals in some form of romance . . ." (Frye, 1957: 186). Ironically, both Green and the romantic radicals of the 60s would be likely to agree on opposition to the romantic liberalism of the early twentieth century that enshrined the public schools as a social panacea. The radicals of the 60s may have made the

mistake of advocating a vision of children freed from the oppression of the public schools who would immediately set up Utopia, but surely anyone who still subscribes to *that* kind of optimism needs a look at a newspaper, not rigorous logical refutation. Perhaps Green's target should have been the romantic ideologues of the Liberal Establishment: Mann, Dewey, Counts, *et al*. Educational statesmen can also perpetuate illusions.

The Snakelike Procession. Borrowed from the book by David Riesman mentioned above, this metaphor suggests an insidious sequence in which institutions at the lower end of the system's hierarchy strive to be like those at the upper end (*PBES*, p. 77). According to Green, although community and junior colleges aspire to be like Harvard, they can never succeed: *They are not part of the system!* The system "does not include degrees that may be offered beyond the secondary level and below the bachelor's level" (p. 88). I suspect, by contrast, that community and junior colleges (A) do *not* seek to emulate Harvard and (B) *are* part of the system. My witness on point (A) would be none other than David Riesman: His recent book *On Higher Education* (1980) acknowledges the limitations of the "snakelike procession" metaphor: community colleges do not seek to ape the curriculum or personnel practices of the prestigious universities; unemployed Ph.D.'s are often *unwelcome* as applicants for teaching positions. And on point (B): Green's admission that his TA identifies a system in which there is a "single ladder of success" (p. 88) may render his work obsolete. Currently, the system seems to be dividing into multiple ladders of success that leave the working class status seeker simply bewildered as to where to start climbing. The "Colleges of the Forgotten Americans" (Dunham, 1969)—schools which began their existence as normal schools and evolved into state colleges and universities—have now begun to expand downward into competition with community colleges for Associate degree students and sideways into competition with Ph.D. programs by offering the degree of Specialists. Students who take these programs frequently discover that the credit will not transfer. The snake has begun to look like a Hydra.

The Ontology of the System. The most ingenious aspect of *PBES* is the use of Aristotle's notion of practical rationality to identify the logic of the structure of the system. For Green, the system behaves according to the logic of practical arguments: If P, then Do Q. P is the case. Therefore Do Q. *PBES*, then, is a type of organization theory that describes the formal logic of the rules that are internally constitutive of the educational system. It does not describe *social* systems; nor does it offer a theory of education. The scope of *PBES* is restricted even more by Green's seeming adoption of a viewpoint called *holism*. This is the view that social institutions can be adequately described without reference to the actions of people. Holism is commonly contrasted with *individualism* which holds that social institutions are nothing more than the sum of the behaviors of the people who inhabit

them. A middle position called *institutionalism* would emphasize the interaction of individual and institutional characteristics (see Agassi, 1975). A metaphor that has helped: Imagine that the educational system is a vast computer. *PBES* is an attempt to identify the program for that computer. No attempt is made to identify the programmers. There is no discussion of how the computer might be reprogrammed. There are no anecdotes about the people who must do their jobs according to the various subprograms of the computer.

Final Irony. This review has a rather critical tone. My reader may be surprised to find that I regard *PBES* to be an achievement in educational theory comparable to Kant's *Critique of Pure Reason* in philosophy and Keynes' *General Theory of Employment, Interest, and Money* in economics. But because it is such a difficult work I believe that any reviewer or reader of *PBES* must make the most concerted effort to engage Green in dialogue. *PBES* will not be even minimally understood unless it inspires a body of critical writing. Nearly twenty years ago, Thomas F. Green wrote that "Albert Camus has insisted that the problem of hope and whether men can live without hope is the most, indeed the only, serious question of our time" (1963: 68). The ironic, holistic viewpoint of *PBES* with its powerful and rigorous arguments for the Law of Last Entry, the Law of Zero Correlation, and the Principle of the Moving Target leaves the reader with the overwhelming impression that the flaws of the system are irremediable and its laws unalterable by the poor efforts of mere human beings. Perhaps a close look at the system from an individualist or institutionalist viewpoint might give us hope. Perhaps the old romantic liberals—Horace Mann, John Dewey, George S. Counts—at their worst may have supplied us with illusions and false consciousness, but at their best they gave teachers a sense of purpose that has been sadly lost in the 1980s. If *PBES* is right, perhaps we may as well just go out and break windows.

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Americans and Their Schools

Erwin V. Johanningmeier
Chicago: Rand-McNally–College Publishing Co., 1980
pp. xiii + 328.

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The author says that in this book he has "tried to show how Americans have thought about their schools and their relationship to the society as a whole" (p. xi). However, the picture appears to be unfocused and incomplete, which makes me wonder how useful (and with whom) the book possibly will be. I will indicate that wonder in my comments and by raising questions that the book provokes.

The book is divided into five parts, each one containing two or three chapters, with the exception of Part III, which has seven chapters. Part I is an examination of the Colonial era, and covers New England, Virginia, and Pennsylvania. Part II covers "The Early Republic," and discusses "Educational Plans for the New Republic" (e.g., Jefferson's views, and ideas about national education) and early views of schoolkeeping and schoolbooks.

Part III, the most extensive, is about the ". . . Successes and Failures of the Common School." The length of this part may suggest that this is the most important period in the history of American schooling. In addition to the usual material on the common schools, this part has chapters on the call for women's education, education for the Indian, and Negro education. (It must be the insufficiency of these opportunities that has been (one of) the failures of the common school.) Part IV covers "Modern Times," and discusses the use of the new science of psychology in education, education for industrial society, and the high school. The final Part V elaborates on "A New World and a New Generation," commenting on "Education for Defense" and the new use of media in education.

Each part begins with a prologue and ends with what might be called an "epilogue." I first thought that they were intended to be "preface" and "summary," but the aftercomments often introduce material (though very briefly) that has not been discussed previously in the chapters, so it cannot be called a "summary." Sometimes, because of the new material, one may be confused into thinking that the aftercomments (the "epilogue") are the beginning of a new section. But one eventually realizes that they are not. I think it would be better if the aftercomments were frankly a summary and were labelled as such.

The book ends with "A Guide to Educational Research," an ambiguous designation (or title), that does not inform students how to conduct research for themselves, but really is a bibliography "for those who may want to investigate topics presented in the text or other educational topics of interest

in further depth'' (p. 305). Of course, a bibliography is useful. Finally, there is an index, which will prove to be vexing, I believe, because it contains misspellings and numerous references to materials that do not appear on the cited pages.

A general impression I have of the book is that it is as much or more an attempt at intellectual history than it is a history of education or a history of schooling. Much of the discussion takes a while to get to education or schooling. This is true in the early chapters on the colonies and in some parts of the discussion (seven chapters) of common schools, but later chapters also have some of that character. Surely history requires background, and the point is to show the relation of schools to society, so my impression may be thought to be only a difference of degree with the author. But recall that the title of the book is *Americans and Their Schools*. It seems to me that much of the discussion never focuses directly on schools, so I wonder if it has drifted from the point. Or is the book mistitled? Thus, the first question to be determined is whether or not the author intended to write a history of schooling or a broader intellectual history of education. How the book can be used will depend on that.

A second general impression I have is that some very important educational material is not covered at all in this book. In order to test that impression, I have compared the book with other histories of American education: Edward A. Krug's *Salient Dates in American Education* (1966), Robert E. Potter's *The Stream of American Education* (1967), Harry G. Good's *A History of American Education* (3rd ed., with James D. Teller, 1973), and Robert L. Church's *Education in the United States* (with Michael W. Sedlak, 1976). Of course, not all of these books have the same focus or are organized in the same way. That is most obvious in Krug's little book. But if Johanningmeier's book is intended to be a comprehensive history of education, one might expect to find references to similar topics of educational importance, though the discussions of those topics might differ.

In Johanningmeier's book there is only one sentence (in an ''epilogue'') about the Northwest Ordinance; one sentence (again in an ''epilogue'') about McGuffey's readers (though there is a chapter on schoolkeeping and school books, but it ends with Webster's Speller); one sentence about land grant higher education (Morrill acts); nothing at all about the controversy over religion in education; and, while there are many references to the National Education Association, there is no discussion of its own history, organization, and controversies and no discussion of other teacher organizations (e.g., the American Federation of Teachers). There is no discussion of academic freedom or teacher freedom; organized labor and education; immigrant education; athletics and extra-curricular matters and issues; benevolent and philanthropic societies; corporal punishment; the Freedman's Bureau, and anti-intellectualism in American society and education.

Far be it from me to deny an author the right to discuss a topic and details of his own choosing. But these gaps do raise questions. For whom and for what use is the book intended? (I can find no clue to this in the book itself.) If it is for teacher education students to become informed about the history of their profession, are the topics I have cited not important to that end?

Again, my interest need not be the author's interest, but I also wonder why there seems to be an avoidance in this book of the educational and social ideas of John Dewey (and other "progressive" educators and progressive education in general). To be sure, there are a few references to Dewey and one paragraph about Harold Rugg, but there is no thoroughgoing treatment of progressive education and its personalities. Potter, Good and Teller, and Church and Sedlak all have extensive discussions of Dewey's ideas and progressive education. (I do not like to give an answer that an author has not developed himself, but I do wonder if progressive education has been muted in favor of Johanningmeier's more pronounced interest in the rise and role of psychology in education.) These omissions and lack of emphasis make one wonder why the book is organized as it is. Why does it deemphasize some topics of suspected importance and proceed with its discussion in the order that it does?

In other words, what is the unique theme or thesis or organizing principle of the book? (I cannot find this stated or even implied anywhere in the book.) I assume that topics and organization are chosen to serve such an end. I refer here to a theme such as Henry Perkinson's idea, in *The Imperfect Panacea* (1968), that Americans have seen education, or schooling, to be the solution (or panacea) for all their problems, but that it has been an imperfect solution at best; or David Tyack's thesis, in *The One Best System* (1974), that the search for one best system of schooling has ill-served pluralistic American society and that the poor and the dispossessed have been systematically victimized by schooling; or Michael B. Katz's judgment, in *Class, Bureaucracy, & Schools* (expanded edition, 1975), that educational change in America has been an illusion. A theme, or thesis, or point of view becomes the focus of a book. Otherwise a mass of material will not instruct. Surely Johanningmeier has a point of view about the history of American education that he wants to get across to the reader? A theme, or thesis, or point of view also will give a clue to determine the freshness of a book and the creativeness of an author.

Finally, I have to say that the book appears to be incomplete in yet another sense (than omitting topics), in that its discussions are not connected with present concerns. For example, the discussions of educational measurement (e.g., p. 216) and the controversy over a science of education could lead to the present situation of performance-based education. Or the account of the rights and responsibilities of superintendents (p. 235), in contrast to those of teachers, still is an important issue today. But these modern connections are

not made. In some cases the connection is raised but not explored further. A striking example is the statement (on p. 223, quoting from David C. Berliner and N. L. Gage's assessment in the 75th Yearbook of the National Society for the Study of Education (1976) that ". . . the marriage of education and psychology turned out to be a 'disappointing marriage.' Some might call it barren." There are few more pertinent issues in education today, in my estimation, but there is no further discussion in the book of this provocative remark. The remark may be intended to be a conclusion to previous comments, but it is more importantly a judgment (or evaluation) that is worth considering in its own right.

My expectation may imply a different conception of history than is the author's. He should indicate that. The observation returns to the matter of the intent and use of the book. Is it simply to describe our educational past? Or is it to inform students preparing to be teachers themselves about the development of their profession in society, so that they might act more intelligently on their own? The chapter on metaphors in education (Chapter 14) poses this issue concretely. The discussion of metaphors—military, industrial, bureaucratic—as they have been used in education is insightful. But it is only half the story. If students are not to become trapped by metaphors, they must learn how to cope with them. I disagree with the author that metaphors must be "set aside" (p. 243), though he may be right in his belief that other questions about schools, teachers, and children "may be more useful than new or old metaphors" (p. 243). Metaphors are a way of thinking; they are used all the time; so we have to deal with them. (Susan Stebbing has an insightful chapter on this topic in her *Thinking to Some Purpose* (1939), Chapter IX.) Thus, while it is important to recognize metaphors (and Johanningmeier has helped with this), it also is necessary to know how to determine their pertinence and whether or not they help or hinder thought and practice in education. This takes us beyond history and into other studies. A discussion of Americans and their schools could have a broader purpose than to be just a description of events. I wonder to what extent the author might agree with this and want his book to serve a broader function?

Were there clues or answers in the book to the issues I have raised, the book might have a better use than what I can envision for it. It is an incomplete history of American education. For one who has studied some of that history already, it makes him want more; but I fear that the uninitiated, the new student, never will know from this book how much more is pertinent.

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